Appendix 8H

Electrical Conductivity

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8H.1 Appendix Overview

This appendix begins with a brief overview of the electrical conductivity methodology and uncertainties and limitations inherent in the methodology, then provides tables of the results of the modeling approach. This appendix also includes technical memoranda prepared for use in the EIR/EIS. The formats, figure numbers, and table numbers in the individual memoranda were not changed because the memos were incorporated in their entirety. The following memos are included as separate Attachments to Appendix 8H:

- Attachment 1: BDCP EIR/EIS Water Quality Sensitivity Analysis
- Attachment 2: San Joaquin River Salinity Objective at and between Jersey Point and Prisoners Point

8H.2 Electrical Conductivity Methodology

Electrical conductivity (EC) was modeled quantitatively for the Delta using DSM2-QUAL model output. Section 8.3.1.1, 8.3.1.3, and the EC discussion under section 8.3.1.7 provide more detailed information regarding the assessment methodology for EC and the details of the quantitative approach.

The assessment of Bay-Delta WQCP EC objectives showed exceedances of these objectives at several locations under Existing Conditions, No Action, and BDCP Alternatives. Understanding the uncertainties and limitations in the modeling and assessment approach is important for interpreting the results and effects analysis, including assessment of compliance with water quality objectives. Please refer to Section 8.3.1.1, *Models Used and Their Linkages*, and Section 8.3.1.3, *Plan Area*, for a description of these limitations. In light of these limitations, the assessment of compliance is conducted in terms of assessing the overall direction and degree to which Delta EC would be affected relative to a baseline, and discussion of compliance does not imply that the alternative would literally cause Delta EC to be out of compliance a certain period of time. In other words, the model results are used in a comparative mode, not a predictive mode.

Furthermore, there are several factors related to the modeling approach that may result in modeling artifacts that show objective exceedance, when in reality no such exceedance would occur. Sensitivity analyses and further other analyses were performed to evaluate whether exceedances were indeed modeling artifacts or were potential project related impacts that may actually occur. The sensitivity analysis modeling runs were limited to the Existing Conditions, No Action Alternative, and Alternative 4 Scenario H3, but the findings from these analyses can generally be extended to other scenarios of Alternative 4 and the other project alternatives. A complete discussion of the sensitivity analysis modeling runs performed and the results for EC is included in Attachment 1 of this Appendix.

DWR and USBR have every intention of operating SWP and CVP facilities by fine tuning reservoir storage and exports in real time to meet D-1641 standards, and any changes to D-1641 as adopted by the SWRCB. Actual operations are continuously adjusted to respond to reservoir storages, river flows, exports, in-Delta demands, tides, and other factors to insure compliance to regulatory requirements to the extent possible.

For further information, additional description of the model limitations related to the water quality modeling results are found in Appendix 5A. The limitations of the input assumptions described in Appendix 5A, such as Delta agricultural drainage and return flows, should be considered when DSM2 EC results are used to compare performance of a baseline or an alternative against the standards.

8H.3 Electrical Conductivity Modeling Results and Compliance Assessment Tables and Figures

Table EC-1. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 1 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 1 LLT	Ex. Cond.	No Act. LLT	Alt 1 LLT	Ex. Cond.	No Act. LLT	Alt 1 LLT	Ex. Cond.	No Act. LLT	Alt 1 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	54	6	14	2	233	540	160	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	668	6	14	31	233	540	977	11	25	45
San Joaquin River at Jersey Point (AGR)	2,176	415	299	319	19	14	15	623	566	514	29	26	24
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	73	1	1	3	27	26	138	1	1	6
San Joaquin River at Vernalis (AGR)	5,842	163	154	154	3	3	3	424	415	415	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	193	3	3	3	449	444	483	8	8	8
Old River near Middle River (AGR)	5,842	183	177	178	3	3	3	444	438	439	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	211	4	4	4	569	467	472	10	8	8
San Joaquin River at Jersey Point (F&W)	671	0	21	21	0	3	3	0	21	21	0	3	3
San Joaquin River at Prisoners Point (F&W)	671	38	10	17	6	1	2	64	10	17	10	1	2

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-2. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 2 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 2 LLT	Ex. Cond.	No Act. LLT	Alt 2 LLT	Ex. Cond.	No Act. LLT	Alt 2 LLT	Ex. Cond.	No Act. LLT	Alt 2 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	38	6	14	2	233	540	142	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	567	6	14	26	233	540	868	11	25	40
San Joaquin River at Jersey Point (AGR)	2,176	415	299	377	19	14	17	623	566	598	29	26	27
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	105	1	1	5	27	26	174	1	1	8
San Joaquin River at Vernalis (AGR)	5,842	163	154	154	3	3	3	424	415	415	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	177	3	3	3	449	444	438	8	8	7
Old River near Middle River (AGR)	5,842	183	177	184	3	3	3	444	438	445	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	330	4	4	6	569	467	678	10	8	12
San Joaquin River at Jersey Point (F&W)	671	0	21	10	0	3	1	0	21	15	0	3	2
San Joaquin River at Prisoners Point (F&W)	671	38	10	185	6	1	25	64	10	210	10	1	29

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-3. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 3 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 3 LLT	Ex. Cond.	No Act. LLT	Alt 3 LLT	Ex. Cond.	No Act. LLT	Alt 3 LLT	Ex. Cond.	No Act. LLT	Alt 3 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	53	6	14	2	233	540	159	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	663	6	14	30	233	540	951	11	25	44
San Joaquin River at Jersey Point (AGR)	2,176	415	299	328	19	14	15	623	566	536	29	26	25
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	77	1	1	4	27	26	129	1	1	6
San Joaquin River at Vernalis (AGR)	5,842	163	154	154	3	3	3	424	415	415	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	181	3	3	3	449	444	442	8	8	8
Old River near Middle River (AGR)	5,842	183	177	178	3	3	3	444	438	439	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	210	4	4	4	569	467	471	10	8	8
San Joaquin River at Jersey Point (F&W)	671	0	21	21	0	3	3	0	21	21	0	3	3
San Joaquin River at Prisoners Point (F&W)	671	38	10	16	6	1	2	64	10	16	10	1	2

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-4. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 4 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]						% of Days Objective Exceeded [b]						# of Days Out of Compliance [c]						% of Days Out of Compliance [c]					
		Ex. Cond.	No Act. LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Ex. Cond.	No Act. LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Ex. Cond.	No Act. LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Ex. Cond.	No Act. LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4
Sacramento River at Emmaton (AGR)	2,176	120	297	587	626	601	627	6	14	27	29	28	29	233	540	876	935	923	930	11	25	40	43	42	43
San Joaquin River at Jersey Point (AGR)	2,176	415	299	411	336	380	306	19	14	19	15	17	14	623	566	638	531	594	520	29	26	29	24	27	24
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	116	70	121	55	1	1	5	3	6	3	27	26	194	135	199	107	1	1	9	6	9	5
San Joaquin River at Vernalis (AGR)	5,842	163	154	154	153	154	153	3	3	3	3	3	3	424	415	415	414	415	414	7	7	7	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	177	176	177	176	3	3	3	3	3	3	449	444	438	437	438	437	8	8	7	7	7	7
Old River near Middle River (AGR)	5,842	183	177	184	184	184	184	3	3	3	3	3	3	444	438	445	445	445	445	8	7	8	8	8	8
Old River at Tracy Bridge (AGR)	5,842	250	206	327	317	335	320	4	4	6	5	6	5	569	467	675	636	683	639	10	8	12	11	12	11
San Joaquin River at Jersey Point (F&W)	671	0	21	11	0	10	10	0	3	2	0	1	1	0	21	16	0	15	15	0	3	2	0	2	2
San Joaquin River at Prisoners Point (F&W)	671	38	10	155	225	161	225	6	1	21	31	22	31	64	10	181	238	200	238	10	1	25	33	27	33

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

Table EC-5. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 5 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 5 LLT	Ex. Cond.	No Act. LLT	Alt 5 LLT	Ex. Cond.	No Act. LLT	Alt 5 LLT	Ex. Cond.	No Act. LLT	Alt 5 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	53	6	14	2	233	540	169	11	25	8
Sacramento River at Emmaton (AGR)	2,176	120	297	545	6	14	25	233	540	825	11	25	38
San Joaquin River at Jersey Point (AGR)	2,176	415	299	429	19	14	20	623	566	647	29	26	30
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	100	1	1	5	27	26	186	1	1	9
San Joaquin River at Vernalis (AGR)	5,842	163	154	154	3	3	3	424	415	415	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	182	3	3	3	449	444	443	8	8	8
Old River near Middle River (AGR)	5,842	183	177	178	3	3	3	444	438	439	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	263	4	4	5	569	467	611	10	8	10
San Joaquin River at Jersey Point (F&W)	671	0	21	20	0	3	3	0	21	20	0	3	3
San Joaquin River at Prisoners Point (F&W)	671	38	10	59	6	1	8	64	10	85	10	1	12

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-6. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 6 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 6 LLT	Ex. Cond.	No Act. LLT	Alt 6 LLT	Ex. Cond.	No Act. LLT	Alt 6 LLT	Ex. Cond.	No Act. LLT	Alt 6 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	63	6	14	3	233	540	154	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	691	6	14	32	233	540	955	11	25	44
San Joaquin River at Jersey Point (AGR)	2,176	415	299	63	19	14	3	623	566	154	29	26	7
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	0	1	1	0	27	26	0	1	1	0
San Joaquin River at Vernalis (AGR)	5,842	163	154	153	3	3	3	424	415	414	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	179	3	3	3	449	444	440	8	8	8
Old River near Middle River (AGR)	5,842	183	177	177	3	3	3	444	438	438	8	7	7
Old River at Tracy Bridge (AGR)	5,842	250	206	218	4	4	4	569	467	479	10	8	8
San Joaquin River at Jersey Point (F&W)	671	0	21	23	0	3	3	0	21	36	0	3	5
San Joaquin River at Prisoners Point (F&W)	671	38	10	292	6	1	40	64	10	292	10	1	40

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-7. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 7 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 7 LLT	Ex. Cond.	No Act. LLT	Alt 7 LLT	Ex. Cond.	No Act. LLT	Alt 7 LLT	Ex. Cond.	No Act. LLT	Alt 7 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	48	6	14	2	233	540	152	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	412	6	14	19	233	540	631	11	25	29
San Joaquin River at Jersey Point (AGR)	2,176	415	299	372	19	14	17	623	566	593	29	26	27
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	80	1	1	4	27	26	145	1	1	7
San Joaquin River at Vernalis (AGR)	5,842	163	154	155	3	3	3	424	415	445	7	7	8
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	207	3	3	4	449	444	497	8	8	9
Old River near Middle River (AGR)	5,842	183	177	178	3	3	3	444	438	439	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	219	4	4	4	569	467	480	10	8	8
San Joaquin River at Jersey Point (F&W)	671	0	21	0	0	3	0	0	21	0	0	3	0
San Joaquin River at Prisoners Point (F&W)	671	38	10	294	6	1	40	64	10	294	10	1	40

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-8. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 8 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 8 LLT	Ex. Cond.	No Act. LLT	Alt 8 LLT	Ex. Cond.	No Act. LLT	Alt 8 LLT	Ex. Cond.	No Act. LLT	Alt 8 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	59	6	14	3	233	540	159	11	25	7
Sacramento River at Emmaton (AGR)	2,176	120	297	472	6	14	22	233	540	732	11	25	34
San Joaquin River at Jersey Point (AGR)	2,176	415	299	175	19	14	8	623	566	383	29	26	18
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	8	1	1	0	27	26	34	1	1	2
San Joaquin River at Vernalis (AGR)	5,842	163	154	173	3	3	3	424	415	463	7	7	8
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	208	3	3	4	449	444	527	8	8	9
Old River near Middle River (AGR)	5,842	183	177	195	3	3	3	444	438	485	8	7	8
Old River at Tracy Bridge (AGR)	5,842	250	206	229	4	4	4	569	467	519	10	8	9
San Joaquin River at Jersey Point (F&W)	671	0	21	0	0	3	0	0	21	0	0	3	0
San Joaquin River at Prisoners Point (F&W)	671	38	10	279	6	1	38	64	10	279	10	1	38

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-9. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for Alternative 9 LLT.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]			% of Days Objective Exceeded [b]			# of Days Out of Compliance [c]			% of Days Out of Compliance [c]		
		Ex. Cond.	No Act. LLT	Alt 9 LLT	Ex. Cond.	No Act. LLT	Alt 9 LLT	Ex. Cond.	No Act. LLT	Alt 9 LLT	Ex. Cond.	No Act. LLT	Alt 9 LLT
Sacramento River at Emmaton / Three Mile Slough nr. Sacramento River (AGR) [d]	2,176	120	297	116	6	14	5	233	540	233	11	25	11
Sacramento River at Emmaton (AGR)	2,176	120	297	381	6	14	18	233	540	675	11	25	31
San Joaquin River at Jersey Point (AGR)	2,176	415	299	95	19	14	4	623	566	160	29	26	7
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13	18	1	1	1	27	26	31	1	1	1
San Joaquin River at Vernalis (AGR)	5,842	163	154	153	3	3	3	424	415	414	7	7	7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183	16	3	3	0	449	444	45	8	8	1
Old River near Middle River (AGR)	5,842	183	177	130	3	3	2	444	438	391	8	7	7
Old River at Tracy Bridge (AGR)	5,842	250	206	148	4	4	3	569	467	409	10	8	7
San Joaquin River at Jersey Point (F&W)	671	0	21	18	0	3	2	0	21	18	0	3	2
San Joaquin River at Prisoners Point (F&W)	671	38	10	0	6	1	0	64	10	0	10	1	0

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

[d] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for the BDCP alternative is for Three Mile Slough, per the description of the alternative.

Table EC-10: Period average EC levels at Bay-Delta Water Quality Control Plan compliance locations and frequency of exceedance of Bay-Delta Water Quality Control Plan objectives for Banks and Jones pumping plants.

Location		Period [a]	Period Average Electrical Conductivity (µmhos/cm)														Bay-Delta Water Quality Control Plan objective (1000 µmhos/cm) [b]										
																	Frequency of Criterion/Objective Exceedance (%)										
			Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1-H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
Western Delta	Sac. R. at Emmaton / Three Mile Sl. nr. Sac. River [c]	ALL	1,069	1,078	778	677	767	-	-	-	-	695	540	574	603	940	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	1,449	1,600	1,036	983	1,008	-	-	-	-	989	776	792	829	1,405	-	-	-	-	-	-	-	-	-	-	-
	Sac. R. at Emmaton	ALL	1,069	1,078	1,238	1,063	1,219	1,205	1,221	1,070	1,072	1,096	845	887	935	1,302	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	1,449	1,600	1,675	1,578	1,621	1,644	1,629	1,559	1,559	1,591	1,265	1,266	1,317	1,976	-	-	-	-	-	-	-	-	-	-	-
	SJR at Jersey Point	ALL	1,135	976	1,003	838	997	957	944	831	832	907	498	706	681	761	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	1,410	1,323	1,238	1,166	1,235	1,216	1,206	1,139	1,146	1,188	671	913	886	1125	-	-	-	-	-	-	-	-	-	-	-
Interior Delta	S.F. Moke. R. Term.	ALL	203	202	212	213	210	212	213	212	213	210	218	214	214	201	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	209	207	215	217	215	216	217	216	217	215	222	219	218	204	-	-	-	-	-	-	-	-	-	-	-
	SJR at San. And. Landing	ALL	395	376	444	399	444	432	430	397	398	415	316	372	362	457	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	470	468	527	516	531	529	530	502	504	515	367	450	436	625	-	-	-	-	-	-	-	-	-	-	-
Southern Delta	SJR at Vernalis	ALL	581	570	569	570	569	570	569	570	568	569	570	570	571	569	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	718	698	698	698	698	698	698	698	697	698	699	700	702	697	-	-	-	-	-	-	-	-	-	-	-
	SJR at Brandt Bridge	ALL	586	574	574	576	575	576	575	575	574	575	575	576	577	396	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	726	700	708	705	708	705	705	705	704	706	706	710	710	486	-	-	-	-	-	-	-	-	-	-	-
	Old River at Middle River	ALL	586	576	575	579	575	579	578	578	577	576	576	576	577	543	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	726	705	706	709	706	708	709	708	708	706	707	708	709	660	-	-	-	-	-	-	-	-	-	-	-
	Old River at Tracy Bridge	ALL	597	582	584	594	584	593	593	592	591	584	587	586	586	549	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	737	707	715	722	714	721	721	722	722	710	718	717	718	665	-	-	-	-	-	-	-	-	-	-	-
SJR	SJR at Prisoners Pt.	ALL	440	399	436	423	434	436	437	418	424	417	408	438	426	448	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	508	474	492	508	496	509	518	496	504	484	448	513	491	590	-	-	-	-	-	-	-	-	-	-	-
Export Area	Banks PP	ALL	530	493	414	383	433	406	407	390	384	429	176	281	270	231	1	2	0	0	0	0	0	0	0	0	0
		DROUGHT	646	607	526	504	532	511	490	491	472	532	176	315	305	243	2	2	0	0	0	0	0	0	0	0	0
	Jones PP	ALL	555	529	451	401	460	440	420	420	411	470	176	264	259	435	0	0	0	0	0	0	0	0	0	0	0
		DROUGHT	683	652	566	525	549	564	525	537	523	575	176	278	262	559	0	0	0	0	0	0	0	0	0	0	0

Notes:

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

[b] A 1,000 µmhos/cm objective, as a monthly average of mean daily EC, applies to the Banks and Jones pumping plants year-round. Compliance with EC objectives for other locations in the table is assessed on a different time-step and, thus, is summarized in a separate table in this Appendix.

[c] Data for Existing Conditions and No Action LLT are for Sacramento River at Emmaton, per the definition of these baselines. Data for BDCP alternatives 1-3 and 5-9 are for Three Mile Slough, per the description of these alternatives. Alternative 4 maintains the compliance location at Emmaton, so Threemile Slough data is not shown.

Table EC-11. Period average change in EC levels for the No Action Alternative LLT relative to existing conditions.

Electrical Conductivity			OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Annual Avg. Change
No Act. LLT	Location	Period [a]	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.
Western Delta	Sac. R. at Emmaton	ALL	-475	-324	82	66	77	56	57	94	141	48	167	120	9
			(-22%)	(-15%)	(7%)	(11%)	(19%)	(21%)	(21%)	(20%)	(17%)	(5%)	(12%)	(6%)	(1%)
		DROUGHT	-527	-276	190	219	221	66	68	238	394	207	333	677	151
			(-18%)	(-10%)	(10%)	(26%)	(40%)	(21%)	(23%)	(41%)	(38%)	(16%)	(19%)	(23%)	(10%)
	SJR at Jersey Point	ALL	-689	-643	-234	-15	36	34	28	47	87	-244	-169	-151	-159
			(-35%)	(-29%)	(-14%)	(-2%)	(8%)	(11%)	(10%)	(13%)	(16%)	(-17%)	(-11%)	(-7%)	(-14%)
		DROUGHT	-612	-530	-338	18	130	41	32	132	261	-295	-229	353	-86
			(-27%)	(-21%)	(-15%)	(2%)	(24%)	(13%)	(12%)	(33%)	(39%)	(-13%)	(-12%)	(15%)	(-6%)
Interior Delta	S. Fork Moke. R. Term.	ALL	-1	0	-1	-5	-5	-2	-1	-1	-1	0	1	1	-1
			(-0%)	(0%)	(-1%)	(-2%)	(-2%)	(-1%)	(-1%)	(-0%)	(-1%)	(-0%)	(0%)	(0%)	(-1%)
		DROUGHT	0	0	-1	-4	-5	-6	-4	-2	-1	0	1	-1	-2
			(-0%)	(0%)	(-0%)	(-2%)	(-2%)	(-2%)	(-2%)	(-1%)	(-1%)	(-0%)	(0%)	(-0%)	(-1%)
	SJR at San And. Landing	ALL	-68	-119	-53	-16	8	7	3	10	21	-27	-28	29	-19
			(-13%)	(-19%)	(-9%)	(-4%)	(3%)	(3%)	(1%)	(4%)	(8%)	(-7%)	(-7%)	(6%)	(-5%)
		DROUGHT	-26	-77	-46	-42	38	8	3	24	63	-45	-44	130	-1
			(-4%)	(-11%)	(-6%)	(-8%)	(12%)	(3%)	(1%)	(10%)	(25%)	(-9%)	(-8%)	(20%)	(-0%)
Southern Delta	SJR at Vernalis	ALL	3	-35	-48	-83	-10	-28	-10	-5	56	38	7	-15	-11
			(1%)	(-6%)	(-6%)	(-11%)	(-2%)	(-4%)	(-2%)	(-1%)	(11%)	(7%)	(1%)	(-3%)	(-2%)
		DROUGHT	-6	-41	-53	-66	-9	-19	-4	-9	-9	-5	-7	-16	-20
			(-1%)	(-6%)	(-6%)	(-7%)	(-1%)	(-2%)	(-1%)	(-2%)	(-1%)	(-1%)	(-1%)	(-2%)	(-3%)
	SJR at Brandt Bridge	ALL	1	-33	-50	-79	-14	-27	-7	-5	54	22	2	-13	-12
			(0%)	(-6%)	(-7%)	(-11%)	(-2%)	(-4%)	(-1%)	(-1%)	(10%)	(4%)	(0%)	(-3%)	(-2%)
		DROUGHT	-7	-39	-56	-64	-15	-17	5	-8	-8	-60	-40	-15	-27
			(-1%)	(-6%)	(-7%)	(-7%)	(-2%)	(-2%)	(1%)	(-1%)	(-1%)	(-9%)	(-6%)	(-2%)	(-4%)
	Old River at Middle River	ALL	1	-33	-48	-81	-13	-27	-9	-5	54	36	9	-14	-11
			(0%)	(-6%)	(-6%)	(-11%)	(-2%)	(-4%)	(-2%)	(-1%)	(10%)	(6%)	(2%)	(-3%)	(-2%)
		DROUGHT	-7	-39	-54	-66	-13	-18	0	-8	-9	-11	-8	-15	-21
			(-1%)	(-6%)	(-6%)	(-7%)	(-1%)	(-2%)	(-0%)	(-1%)	(-1%)	(-2%)	(-1%)	(-2%)	(-3%)
	Old River at Tracy Bridge	ALL	-7	-27	-49	-80	-18	-28	-10	-6	48	31	-6	-21	-14
			(-1%)	(-5%)	(-6%)	(-10%)	(-3%)	(-4%)	(-2%)	(-1%)	(9%)	(5%)	(-1%)	(-4%)	(-2%)
		DROUGHT	-8	-38	-55	-65	-18	-18	0	-8	-30	-33	-53	-35	-30
			(-1%)	(-6%)	(-7%)	(-7%)	(-2%)	(-2%)	(-0%)	(-1%)	(-5%)	(-5%)	(-8%)	(-5%)	(-4%)
SJR	SJR at Prisoners Point	ALL	-61	-126	-85	-39	-14	-11	-20	-8	-1	-44	-62	-16	-41
			(-12%)	(-21%)	(-14%)	(-7%)	(-4%)	(-3%)	(-6%)	(-3%)	(-0%)	(-11%)	(-14%)	(-3%)	(-9%)
		DROUGHT	-27	-94	-90	-76	-3	-18	-21	3	42	-63	-104	38	-35
			(-5%)	(-14%)	(-12%)	(-12%)	(-1%)	(-5%)	(-6%)	(1%)	(15%)	(-11%)	(-17%)	(6%)	(-7%)
Export Area	Banks PP	ALL	-40	-120	-94	-51	-9	-7	-9	-3	20	-20	-73	-38	-37
			(-7%)	(-19%)	(-14%)	(-8%)	(-2%)	(-1%)	(-2%)	(-1%)	(5%)	(-5%)	(-14%)	(-7%)	(-7%)
		DROUGHT	-15	-87	-92	-64	-20	-12	-9	0	40	-38	-135	-35	-39
			(-2%)	(-12%)	(-11%)	(-8%)	(-3%)	(-2%)	(-1%)	(-0%)	(9%)	(-7%)	(-19%)	(-5%)	(-6%)
	Jones PP	ALL	-25	-104	-81	-59	-6	-8	-4	-4	47	5	-51	-28	-26
			(-5%)	(-17%)	(-12%)	(-8%)	(-1%)	(-1%)	(-1%)	(-1%)	(12%)	(1%)	(-10%)	(-5%)	(-5%)
		DROUGHT	10	-81	-74	-81	-14	-8	4	-6	40	-32	-111	-18	-31
			(2%)	(-12%)	(-9%)	(-10%)	(-2%)	(-1%)	(1%)	(-1%)	(10%)	(-6%)	(-16%)	(-3%)	(-5%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index)

Table EC-12. Period average change in EC levels for Alternative 1 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 1 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1101	-625	-902	-578	-373	-455	-146	-212	-88	-164	-7	-63	-2	-58	-27	-120	-120	-260	-123	-172	-146	-313	-450	-569	-290	-299
			(-50%)	(-37%)	(-43%)	(-33%)	(-30%)	(-34%)	(-24%)	(-31%)	(-22%)	(-34%)	(-3%)	(-19%)	(-1%)	(-18%)	(-6%)	(-21%)	(-15%)	(-27%)	(-13%)	(-17%)	(-11%)	(-21%)	(-21%)	(-25%)	(-27%)	(-28%)
		DROUGHT	-1519	-992	-1293	-1017	-622	-812	-244	-463	-117	-338	-14	-80	0	-68	68	-170	-3	-397	62	-145	-198	-531	-1071	-1748	-413	-563
			(-52%)	(-42%)	(-44%)	(-39%)	(-33%)	(-39%)	(-29%)	(-43%)	(-21%)	(-44%)	(-4%)	(-21%)	(0%)	(-19%)	(12%)	(-21%)	(-0%)	(-28%)	(5%)	(-9%)	(-11%)	(-26%)	(-36%)	(-48%)	(-28%)	(-35%)
	Sac. R. at Emmaton	ALL	-428	48	-208	116	128	46	54	-12	22	-54	64	8	93	36	231	137	324	183	432	384	676	509	641	522	169	160
			(-20%)	(3%)	(-10%)	(7%)	(10%)	(3%)	(9%)	(-2%)	(5%)	(-11%)	(23%)	(2%)	(34%)	(11%)	(48%)	(24%)	(40%)	(19%)	(45%)	(38%)	(50%)	(34%)	(30%)	(23%)	(16%)	(15%)
		DROUGHT	-640	-113	-297	-21	140	-50	66	-153	100	-122	97	31	129	60	495	257	702	308	997	790	818	485	105	-572	226	75
			(-22%)	(-5%)	(-10%)	(-1%)	(7%)	(-2%)	(8%)	(-14%)	(18%)	(-16%)	(30%)	(8%)	(44%)	(17%)	(84%)	(31%)	(68%)	(22%)	(75%)	(51%)	(47%)	(23%)	(4%)	(-16%)	(16%)	(5%)
	SJR at Jersey Point	ALL	-466	223	-722	-79	-240	-7	-76	-61	2	-34	46	12	41	13	52	4	112	24	-293	-49	-61	107	19	171	-132	27
			(-24%)	(18%)	(-33%)	(-5%)	(-14%)	(-0%)	(-9%)	(-7%)	(0%)	(-7%)	(15%)	(4%)	(15%)	(4%)	(15%)	(1%)	(20%)	(4%)	(-21%)	(-4%)	(-4%)	(8%)	(1%)	(9%)	(-12%)	(3%)
		DROUGHT	-493	119	-854	-324	-456	-118	-209	-227	16	-114	48	7	49	17	159	27	288	27	-438	-143	0	229	-169	-521	-171	-85
			(-21%)	(7%)	(-33%)	(-16%)	(-21%)	(-6%)	(-19%)	(-20%)	(3%)	(-17%)	(15%)	(2%)	(18%)	(5%)	(39%)	(5%)	(43%)	(3%)	(-20%)	(-8%)	(0%)	(14%)	(-7%)	(-19%)	(-12%)	(-6%)
Interior Delta	S. Fork Moke. R. Term.	ALL	6	6	9	9	4	5	6	11	6	11	12	14	10	11	7	8	13	14	11	11	11	11	10	9	9	10
			(3%)	(3%)	(5%)	(5%)	(2%)	(3%)	(2%)	(5%)	(3%)	(5%)	(5%)	(6%)	(5%)	(5%)	(4%)	(4%)	(7%)	(7%)	(6%)	(6%)	(6%)	(6%)	(5%)	(5%)	(4%)	(5%)
		DROUGHT	5	5	7	7	4	5	0	4	-5	1	7	12	3	7	7	9	19	20	15	15	11	10	8	9	7	9
			(2%)	(3%)	(4%)	(4%)	(2%)	(3%)	(-0%)	(2%)	(-2%)	(0%)	(3%)	(5%)	(2%)	(3%)	(4%)	(5%)	(10%)	(10%)	(8%)	(8%)	(6%)	(5%)	(4%)	(5%)	(3%)	(4%)
	SJR at San And. Landing	ALL	86	154	-6	113	17	69	32	48	25	17	24	17	10	7	12	2	56	36	36	63	98	126	202	173	49	69
			(17%)	(34%)	(-1%)	(22%)	(3%)	(13%)	(7%)	(12%)	(9%)	(6%)	(10%)	(7%)	(4%)	(3%)	(5%)	(1%)	(23%)	(13%)	(9%)	(17%)	(23%)	(32%)	(39%)	(31%)	(12%)	(18%)
		DROUGHT	82	108	-11	66	-1	45	-23	19	45	6	24	16	11	9	41	17	122	59	46	91	153	196	204	74	58	59
			(13%)	(18%)	(-2%)	(10%)	(-0%)	(7%)	(-4%)	(4%)	(13%)	(2%)	(10%)	(6%)	(5%)	(4%)	(17%)	(6%)	(48%)	(19%)	(9%)	(19%)	(28%)	(38%)	(32%)	(10%)	(12%)	(13%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-98	-15	-11	-1	-28	0	-10	0	-5	0	57	1	38	1	9	1	-15	0	-12	-1
			(1%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-13%)	(-2%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-3	1	-9	1	-7	1	-3	2	-5	2	-16	0	-20	1
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(0%)
	SJR at Brandt Bridge	ALL	1	0	-33	0	-48	2	-97	-18	-16	-1	-27	-1	-9	-2	-5	0	55	0	33	10	12	10	-13	1	-12	0
			(0%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-13%)	(-3%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-0%)	(-1%)	(0%)	(10%)	(0%)	(6%)	(2%)	(2%)	(2%)	(-2%)	(0%)	(-2%)	(0%)
		DROUGHT	-8	-1	-39	0	-52	4	-66	-2	-14	0	-18	-1	1	-4	-8	0	-7	1	4	63	4	44	-13	1	-18	9
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(0%)	(-1%)	(-1%)	(-0%)	(-1%)	(0%)	(1%)	(10%)	(1%)	(7%)	(-2%)	(0%)	(-2%)	(1%)
	Old River at Middle River	ALL	1	0	-33	0	-48	0	-94	-14	-14	-1	-27	0	-8	1	-5	1	55	1	39	2	11	1	-14	0	-12	-1
			(0%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-13%)	(-2%)	(-2%)	(-0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(10%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-7	0	-40	-1	-54	0	-65	1	-13	0	-18	0	1	1	-8	1	-7	1	-2	9	-5	3	-15	0	-19	1
			(-1%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-0%)	(1%)	(-1%)	(1%)	(-2%)	(-0%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-4	3	-27	0	-49	-1	-86	-7	-17	1	-26	1	-7	3	-5	0	66	18	40	10	-9	-3	-22	-2	-12	2
			(-1%)	(1%)	(-5%)	(-0%)	(-7%)	(-0%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(13%)	(3%)	(7%)	(2%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	1	-40	-3	-56	-1	-59	5	-16	2	-15	2	6	6	-7	1	21	50	-1	32	-54	-1	-40	-5	-22	8
			(-1%)	(0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-6%)	(1%)	(-2%)	(0%)	(-2%)	(0%)	(1%)	(1%)	(-1%)	(0%)	(3%)	(8%)	(-0%)	(5%)	(-8%)	(-0%)	(-6%)	(-1%)	(-3%)	(1%)
SJR	SJR at Prisoners Point	ALL	24	86	-81	45	-55	30	-2	36	16	30	12	23	-8	12	-1	8	23	24	-19	25	-7	55	47	63	-4	36
			(5%)	(19%)	(-14%)	(10%)	(-9%)	(6%)	(-0%)	(8%)	(4%)	(8%)	(4%)	(7%)	(-2%)	(4%)	(-0%)	(3%)	(8%)	(8%)	(-5%)	(7%)	(-2%)	(14%)	(9%)	(13%)	(-1%)	(9%)
		DROUGHT	15	42	-115	-21	-105	-15	-78	-2	3	7	8	26	1	23	21	19	71	30	-66	-3	-20	84	67	30	-16	18
			(3%)	(8%)	(-18%)	(-4%)	(-14%)	(-2%)	(-13%)	(-0%)	(1%)	(2%)	(2%)	(7%)	(0%)	(7%)	(7%)	(6%)	(26%)	(10%)	(-12%)	(-1%)	(-3%)	(17%)	(11%)	(5%)	(-3%)	(4%)
Export Area	Banks PP	ALL	11	51	-142	-22	-169	-75	-255	-204	-131	-121	-213	-206	-143	-134	-62	-59	-59	-79	-54	-34	-122	-49	-54	-16	-115	-78
			(2%)	(10%)	(-22%)	(-4%)	(-25%)	(-13%)	(-39%)	(-33%)	(-24%)	(-23%)	(-44%)	(-44%)	(-31%)	(-29%)	(-14%)	(-14%)	(-15%)	(-19%)	(-12%)	(-8%)	(-23%)	(-11%)	(-10%)	(-3%)	(-22%)	(-16%)
		DROUGHT	21	36	-125	-38	-205	-113	-196	-132	-14	6	-318	-306	-237	-228	-112	-112	25	-14	-88	-50	-151	-15	-31	4	-119	-80
			(3%)	(6%)	(-18%)	(-6%)	(-25%)	(-16%)	(-25%)	(-18%)	(-2%)	(1%)	(-49%)	(-49%)	(-38%)	(-37%)	(-20%)	(-20%)	(6%)	(-3%)	(-17%)	(-10%)	(-21%)	(-3%)	(-5%)	(1%)	(-18%)	(-13%)
	Jones PP	ALL	-30	-4	-174	-70	-160	-79	-174	-115	-165	-159	-119	-111	-102	-98	-85	-82	-45	-91	-55	-60	-43	8	-94	-66	-104	-77
			(-5%)	(-1%)	(-28%)	(-13%)	(-23%)	(-13%)	(-25%)	(-18%)	(-27%)	(-26%)	(-20%)	(-19%)	(-21%)	(-21%)	(-19%)	(-19%)	(-11%)	(-21%)	(-12%)	(-13%)	(-8%)	(2%)	(-17%)	(-13%)	(-19%)	(-15%)
		DROUGHT	-56	-66	-193	-113	-114	-41	-119	-39	-241	-227	-140	-131	-175	-179	-168	-162	-25	-65	-70	-39	-87	24	-16	2	-117	-86
			(-9%)	(-10%)	(-28%)	(-18%)	(-14%)	(-5%)	(-14%)	(-5%)	(-29%)	(-27%)	(-16%)	(-15%)	(-27%)	(-28%)	(-29%)	(-29%)	(-6%)	(-15%)	(-13%)	(-7%)	(-13%)	(4%)	(-2%)	(0%)	(-17%)	(-13%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-13. Period average change in EC levels for Alternative 2 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 2 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1359	-884	-1129	-805	-540	-621	-245	-311	-102	-178	-9	-65	0	-56	-38	-132	-127	-267	-126	-174	-150	-317	-875	-995	-392	-401
			(-62%)	(-52%)	(-54%)	(-45%)	(-43%)	(-47%)	(-40%)	(-46%)	(-25%)	(-37%)	(-3%)	(-20%)	(0%)	(-17%)	(-8%)	(-23%)	(-16%)	(-28%)	(-13%)	(-17%)	(-11%)	(-21%)	(-41%)	(-44%)	(-37%)	(-37%)
		DROUGHT	-1656	-1129	-1520	-1243	-827	-1017	-344	-564	-120	-341	-13	-79	2	-67	66	-172	-8	-401	83	-124	-187	-520	-1067	-1744	-466	-617
			(-57%)	(-47%)	(-52%)	(-47%)	(-43%)	(-48%)	(-40%)	(-53%)	(-22%)	(-44%)	(-4%)	(-20%)	(1%)	(-18%)	(11%)	(-21%)	(-1%)	(-28%)	(6%)	(-8%)	(-11%)	(-25%)	(-36%)	(-48%)	(-32%)	(-39%)
	Sac. R. at Emmaton	ALL	-882	-407	-578	-253	-144	-226	-114	-180	-1	-78	63	7	92	35	193	99	305	164	419	371	667	500	-92	-211	-6	-15
			(-40%)	(-24%)	(-28%)	(-14%)	(-12%)	(-17%)	(-19%)	(-27%)	(-0%)	(-16%)	(23%)	(2%)	(33%)	(11%)	(41%)	(17%)	(37%)	(17%)	(44%)	(37%)	(50%)	(33%)	(-4%)	(-9%)	(-1%)	(-1%)
		DROUGHT	-903	-376	-704	-428	-206	-396	-120	-340	94	-127	98	33	127	59	487	249	693	299	1030	823	839	506	119	-558	130	-21
			(-31%)	(-16%)	(-24%)	(-16%)	(-11%)	(-19%)	(-14%)	(-32%)	(17%)	(-16%)	(31%)	(9%)	(43%)	(16%)	(83%)	(30%)	(67%)	(21%)	(77%)	(54%)	(48%)	(24%)	(4%)	(-15%)	(9%)	(-1%)
	SJR at Jersey Point	ALL	-1004	-315	-1140	-497	-622	-388	-278	-263	-69	-105	28	-6	41	13	56	9	142	55	-257	-12	-12	157	-458	-307	-298	-138
			(-51%)	(-25%)	(-52%)	(-32%)	(-37%)	(-27%)	(-32%)	(-31%)	(-15%)	(-21%)	(9%)	(-2%)	(15%)	(4%)	(16%)	(2%)	(26%)	(9%)	(-18%)	(-1%)	(-1%)	(12%)	(-22%)	(-16%)	(-26%)	(-14%)
		DROUGHT	-920	-307	-1087	-557	-634	-297	-306	-325	-50	-180	49	8	56	24	166	34	349	88	-427	-132	11	241	-129	-482	-243	-157
			(-40%)	(-18%)	(-42%)	(-27%)	(-29%)	(-16%)	(-28%)	(-29%)	(-9%)	(-27%)	(15%)	(2%)	(20%)	(8%)	(41%)	(6%)	(52%)	(10%)	(-20%)	(-7%)	(1%)	(14%)	(-5%)	(-17%)	(-17%)	(-12%)
Interior Delta	S. Fork Moke. R. Term.	ALL	8	9	10	9	5	6	8	12	9	14	15	17	13	15	9	10	14	15	10	10	11	10	8	8	10	11
			(4%)	(5%)	(5%)	(5%)	(2%)	(3%)	(3%)	(5%)	(4%)	(6%)	(7%)	(8%)	(7%)	(7%)	(5%)	(5%)	(7%)	(8%)	(5%)	(5%)	(6%)	(6%)	(5%)	(4%)	(5%)	(6%)
		DROUGHT	8	8	8	8	4	5	2	6	-1	4	10	16	5	9	8	10	19	20	15	16	11	10	9	9	8	10
			(4%)	(4%)	(4%)	(4%)	(2%)	(2%)	(1%)	(3%)	(-0%)	(2%)	(4%)	(7%)	(2%)	(4%)	(4%)	(5%)	(10%)	(10%)	(8%)	(8%)	(6%)	(5%)	(5%)	(5%)	(4%)	(5%)
	SJR at San And. Landing	ALL	-54	14	-149	-30	-110	-57	-58	-42	3	-5	22	16	27	24	32	22	73	53	52	79	118	146	95	66	4	24
			(-10%)	(3%)	(-24%)	(-6%)	(-19%)	(-11%)	(-14%)	(-10%)	(1%)	(-2%)	(10%)	(7%)	(12%)	(10%)	(13%)	(9%)	(29%)	(19%)	(14%)	(22%)	(28%)	(37%)	(18%)	(12%)	(1%)	(6%)
		DROUGHT	-3	24	-91	-14	-40	6	-51	-9	26	-13	33	25	31	28	58	34	144	82	73	118	162	205	218	88	47	48
			(-0%)	(4%)	(-13%)	(-2%)	(-5%)	(1%)	(-9%)	(-2%)	(8%)	(-3%)	(14%)	(10%)	(13%)	(12%)	(24%)	(13%)	(57%)	(26%)	(14%)	(24%)	(29%)	(40%)	(34%)	(11%)	(10%)	(10%)
Southern Delta	SJR at Vernalis	ALL	5	2	-35	0	-43	5	-79	4	-10	0	-28	0	-10	0	-5	0	56	0	38	0	7	0	-16	-1	-10	1
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(1%)	(-1%)	(0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-1	5	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-9	0	-5	0	-7	0	-18	-2	-20	0
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(0%)
	SJR at Brandt Bridge	ALL	3	2	-33	0	-43	7	-80	-1	-14	1	-28	-1	-12	-5	-6	-1	55	0	36	14	11	9	-14	-1	-10	2
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-0%)	(-2%)	(0%)	(-4%)	(-0%)	(-3%)	(-1%)	(-1%)	(-0%)	(10%)	(0%)	(6%)	(2%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-3	4	-38	1	-53	3	-67	-3	-13	2	-19	-2	-7	-12	-9	-2	-8	0	-12	47	-6	33	-16	-2	-21	6
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-2%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(8%)	(-1%)	(5%)	(-3%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	8	7	-32	1	-43	5	-70	11	-11	2	-25	2	-3	6	-3	2	54	0	39	3	10	1	-14	-1	-8	3
			(1%)	(1%)	(-6%)	(0%)	(-6%)	(1%)	(-9%)	(2%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(10%)	(-0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-1%)	(1%)
		DROUGHT	1	8	-38	1	-54	0	-58	7	-11	2	-14	4	10	10	-5	3	-8	0	-4	8	-6	2	-17	-2	-17	4
			(0%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-1%)	(0%)	(-2%)	(0%)	(2%)	(2%)	(-1%)	(1%)	(-1%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(-3%)	(-0%)	(-2%)	(1%)
	Old River at Tracy Bridge	ALL	6	13	-22	5	-45	3	-48	31	-2	16	-17	10	22	32	3	9	42	-6	34	3	5	11	-12	9	-3	11
			(1%)	(3%)	(-4%)	(1%)	(-6%)	(0%)	(-6%)	(4%)	(-0%)	(2%)	(-3%)	(2%)	(5%)	(7%)	(1%)	(2%)	(8%)	(-1%)	(6%)	(1%)	(1%)	(2%)	(-2%)	(2%)	(-0%)	(2%)
		DROUGHT	3	11	-25	13	-54	1	-49	16	-14	4	-1	16	58	58	4	12	-28	2	-31	2	-34	19	-16	19	-16	14
			(1%)	(2%)	(-4%)	(2%)	(-6%)	(0%)	(-5%)	(2%)	(-1%)	(0%)	(-0%)	(2%)	(9%)	(9%)	(1%)	(2%)	(-4%)	(0%)	(-5%)	(0%)	(-5%)	(3%)	(-2%)	(3%)	(-2%)	(2%)
SJR	SJR at Prisoners Point	ALL	-53	9	-161	-35	-167	-82	-74	-35	36	50	55	66	54	74	40	48	59	59	-12	32	4	66	14	31	-17	24
			(-10%)	(2%)	(-27%)	(-7%)	(-27%)	(-15%)	(-14%)	(-7%)	(9%)	(13%)	(16%)	(20%)	(16%)	(23%)	(13%)	(16%)	(20%)	(21%)	(-3%)	(9%)	(1%)	(17%)	(3%)	(6%)	(-4%)	(6%)
		DROUGHT	-46	-19	-135	-41	-135	-46	-93	-17	39	43	94	111	92	113	78	75	105	63	-50	13	-18	86	68	31	0	34
			(-8%)	(-3%)	(-21%)	(-7%)	(-18%)	(-7%)	(-15%)	(-3%)	(9%)	(10%)	(24%)	(30%)	(26%)	(34%)	(25%)	(24%)	(39%)	(20%)	(-9%)	(3%)	(-3%)	(17%)	(11%)	(5%)	(-0%)	(7%)
Export Area	Banks PP	ALL	-80	-40	-245	-125	-253	-159	-309	-257	-184	-174	-168	-161	-157	-149	-32	-29	-53	-73	-68	-48	-118	-45	-131	-92	-147	-110
			(-14%)	(-8%)	(-39%)	(-24%)	(-37%)	(-27%)	(-47%)	(-42%)	(-34%)	(-33%)	(-35%)	(-34%)	(-34%)	(-33%)	(-7%)	(-7%)	(-13%)	(-17%)	(-16%)	(-12%)	(-22%)	(-10%)	(-24%)	(-18%)	(-28%)	(-22%)
		DROUGHT	-9	6	-186	-99	-270	-178	-405	-340	-194	-174	-294	-282	-234	-225	-68	-68	-44	-83	-79	-41	-168	-33	8	43	-142	-103
			(-1%)	(1%)	(-26%)	(-16%)	(-33%)	(-25%)	(-52%)	(-48%)	(-30%)	(-27%)	(-46%)	(-45%)	(-37%)	(-36%)	(-12%)	(-12%)	(-10%)	(-18%)	(-15%)	(-8%)	(-23%)	(-6%)	(1%)	(7%)	(-22%)	(-17%)
	Jones PP	ALL	-127	-102	-219	-115	-248	-167	-304	-245	-222	-216	-238	-230	-110	-106	-105	-102	-61	-107	-61	-66	-34	16	-128	-100	-154	-127
			(-23%)	(-19%)	(-35%)	(-22%)	(-35%)	(-27%)	(-43%)	(-38%)	(-36%)	(-35%)	(-40%)	(-39%)	(-23%)	(-22%)	(-24%)	(-23%)	(-15%)	(-24%)	(-13%)	(-14%)	(-7%)	(3%)	(-23%)	(-19%)	(-28%)	(-24%)
		DROUGHT	-103	-113	-167	-86	-246	-173	-455	-375	-193	-179	-343	-334	-134	-138	-187	-181	2	-38	-146	-115	-78	33	25	43	-158	-128
			(-16%)	(-17%)	(-24%)	(-14%)	(-30%)	(-23%)	(-54%)	(-49%)	(-23%)	(-22%)	(-40%)	(-39%)	(-21%)	(-21%)	(-33%)	(-32%)	(0%)	(-9%)	(-27%)	(-22%)	(-11%)	(6%)	(4%)	(7%)	(-23%)	(-20%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-14. Period average change in EC levels for Alternative 3 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 3 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1115	-640	-965	-640	-362	-444	-179	-246	-103	-179	-9	-65	-1	-58	-19	-113	-125	-265	-123	-171	-156	-323	-470	-589	-302	-311
			(-51%)	(-38%)	(-46%)	(-36%)	(-29%)	(-33%)	(-29%)	(-36%)	(-25%)	(-37%)	(-3%)	(-20%)	(-0%)	(-17%)	(-4%)	(-20%)	(-15%)	(-28%)	(-13%)	(-17%)	(-12%)	(-21%)	(-22%)	(-26%)	(-28%)	(-29%)
		DROUGHT	-1558	-1031	-1434	-1157	-544	-734	-323	-542	-171	-392	-20	-86	3	-65	88	-150	-38	-432	56	-151	-229	-562	-1124	-1801	-441	-592
			(-53%)	(-43%)	(-49%)	(-44%)	(-28%)	(-35%)	(-38%)	(-51%)	(-31%)	(-51%)	(-6%)	(-22%)	(1%)	(-18%)	(15%)	(-18%)	(-4%)	(-30%)	(4%)	(-10%)	(-13%)	(-27%)	(-38%)	(-50%)	(-30%)	(-37%)
	Sac. R. at Emmaton	ALL	-465	10	-287	37	146	64	-9	-76	-3	-79	61	5	96	39	243	149	319	178	429	381	663	496	612	493	150	142
			(-21%)	(1%)	(-14%)	(2%)	(12%)	(5%)	(-1%)	(-11%)	(-1%)	(-17%)	(23%)	(2%)	(35%)	(12%)	(51%)	(26%)	(39%)	(19%)	(45%)	(38%)	(49%)	(33%)	(29%)	(22%)	(14%)	(13%)
		DROUGHT	-740	-213	-529	-252	261	71	-100	-319	-3	-224	86	21	136	67	526	287	647	253	986	779	771	438	24	-653	172	21
			(-25%)	(-9%)	(-18%)	(-10%)	(14%)	(3%)	(-12%)	(-30%)	(-1%)	(-29%)	(27%)	(5%)	(46%)	(19%)	(90%)	(35%)	(62%)	(18%)	(74%)	(51%)	(44%)	(21%)	(1%)	(-18%)	(12%)	(1%)
	SJR at Jersey Point	ALL	-466	222	-772	-129	-234	0	-97	-82	-37	-73	33	-1	38	11	61	13	113	26	-274	-30	-68	100	48	199	-138	21
			(-24%)	(18%)	(-35%)	(-8%)	(-14%)	(-0%)	(-11%)	(-10%)	(-8%)	(-15%)	(11%)	(-0%)	(14%)	(4%)	(17%)	(3%)	(21%)	(4%)	(-19%)	(-3%)	(-4%)	(7%)	(2%)	(10%)	(-12%)	(2%)
		DROUGHT	-454	158	-1003	-473	-362	-24	-179	-197	-48	-178	37	-4	46	14	181	49	300	39	-436	-140	-7	223	-177	-530	-175	-89
			(-20%)	(9%)	(-39%)	(-23%)	(-16%)	(-1%)	(-16%)	(-18%)	(-9%)	(-26%)	(11%)	(-1%)	(17%)	(5%)	(45%)	(9%)	(45%)	(4%)	(-20%)	(-7%)	(-0%)	(13%)	(-7%)	(-19%)	(-12%)	(-7%)
Interior Delta	S. Fork Moke. R. Term.	ALL	5	6	8	7	3	4	3	8	3	7	10	12	8	9	7	7	13	14	10	11	11	11	9	9	8	9
			(3%)	(3%)	(4%)	(4%)	(2%)	(2%)	(1%)	(3%)	(1%)	(3%)	(4%)	(5%)	(4%)	(4%)	(3%)	(4%)	(7%)	(8%)	(5%)	(6%)	(6%)	(6%)	(5%)	(5%)	(4%)	(4%)
		DROUGHT	5	5	9	9	3	4	-1	3	-5	1	7	12	3	7	7	9	19	20	15	15	11	10	8	8	7	9
			(2%)	(3%)	(5%)	(4%)	(2%)	(2%)	(-1%)	(1%)	(-2%)	(0%)	(3%)	(5%)	(1%)	(3%)	(3%)	(4%)	(10%)	(10%)	(8%)	(8%)	(6%)	(5%)	(4%)	(4%)	(3%)	(4%)
	SJR at San And. Landing	ALL	109	177	-22	97	12	65	28	44	15	6	20	13	8	5	13	4	56	36	41	68	99	127	206	176	49	68
			(21%)	(40%)	(-3%)	(19%)	(2%)	(12%)	(7%)	(11%)	(5%)	(2%)	(9%)	(5%)	(3%)	(2%)	(5%)	(1%)	(23%)	(13%)	(11%)	(19%)	(23%)	(32%)	(40%)	(32%)	(12%)	(18%)
		DROUGHT	142	168	-34	43	6	52	5	47	36	-2	21	12	8	6	42	19	125	62	50	95	149	192	188	58	62	63
			(23%)	(29%)	(-5%)	(7%)	(1%)	(8%)	(1%)	(10%)	(11%)	(-1%)	(8%)	(5%)	(3%)	(2%)	(17%)	(7%)	(49%)	(20%)	(10%)	(20%)	(27%)	(38%)	(29%)	(8%)	(13%)	(13%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-93	-11	-11	0	-28	0	-10	0	-5	0	57	0	38	0	8	1	-16	-1	-12	-1
			(1%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-13%)	(-2%)	(-2%)	(-0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-9	0	-5	0	-7	0	-19	-3	-21	0
			(-1%)	(0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	1	-1	-33	0	-48	2	-91	-12	-15	-1	-27	0	-9	-2	-5	0	54	0	33	10	14	12	-13	0	-12	1
			(0%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-12%)	(-2%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-0%)	(-1%)	(0%)	(10%)	(0%)	(6%)	(2%)	(3%)	(2%)	(-2%)	(0%)	(-2%)	(0%)
		DROUGHT	-8	-1	-39	0	-53	3	-66	-2	-14	0	-18	-1	0	-4	-8	0	-8	0	1	61	3	42	-16	-1	-19	8
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(0%)	(-1%)	(-1%)	(-0%)	(-1%)	(-0%)	(0%)	(10%)	(0%)	(7%)	(-2%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	1	0	-33	-1	-48	0	-90	-10	-14	-1	-27	0	-8	1	-5	0	55	1	38	2	10	1	-15	-1	-11	-1
			(0%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-12%)	(-1%)	(-2%)	(-0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(10%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-7	-1	-40	-1	-53	0	-65	1	-13	0	-18	0	1	1	-8	0	-8	0	-4	8	-6	2	-18	-3	-20	1
			(-1%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-4	4	-27	0	-49	0	-85	-5	-18	0	-27	1	-8	3	-6	0	65	17	40	9	-9	-3	-23	-3	-12	2
			(-1%)	(1%)	(-5%)	(-0%)	(-6%)	(0%)	(-11%)	(-1%)	(-3%)	(0%)	(-4%)	(0%)	(-2%)	(1%)	(-1%)	(0%)	(13%)	(3%)	(7%)	(1%)	(-2%)	(-1%)	(-4%)	(-1%)	(-2%)	(0%)
		DROUGHT	-8	0	-41	-3	-54	1	-59	5	-16	2	-15	2	4	4	-8	0	19	49	-2	31	-56	-3	-42	-7	-23	7
			(-1%)	(0%)	(-6%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-2%)	(0%)	(-2%)	(0%)	(1%)	(1%)	(-1%)	(-0%)	(3%)	(8%)	(-0%)	(5%)	(-8%)	(-0%)	(-6%)	(-1%)	(-3%)	(1%)
SJR	SJR at Prisoners Point	ALL	40	101	-78	48	-71	14	-16	23	4	18	15	26	-10	10	-4	5	22	23	-14	30	-5	57	51	67	-6	35
			(8%)	(23%)	(-13%)	(10%)	(-12%)	(3%)	(-3%)	(5%)	(1%)	(5%)	(4%)	(8%)	(-3%)	(3%)	(-1%)	(2%)	(8%)	(8%)	(-3%)	(8%)	(-1%)	(14%)	(10%)	(13%)	(-1%)	(9%)
		DROUGHT	57	84	-111	-16	-116	-26	-52	23	10	14	13	30	-8	13	7	4	76	35	-64	-1	-18	86	59	22	-12	22
			(10%)	(15%)	(-17%)	(-3%)	(-16%)	(-4%)	(-9%)	(4%)	(2%)	(3%)	(3%)	(8%)	(-2%)	(4%)	(2%)	(1%)	(28%)	(11%)	(-12%)	(-0%)	(-3%)	(17%)	(10%)	(3%)	(-2%)	(5%)
Export Area	Banks PP	ALL	-1	40	-139	-19	-154	-60	-175	-123	-64	-55	-149	-142	-134	-126	-55	-52	-40	-60	-77	-58	-118	-45	-69	-31	-97	-60
			(-0%)	(8%)	(-22%)	(-4%)	(-23%)	(-10%)	(-26%)	(-20%)	(-12%)	(-10%)	(-31%)	(-30%)	(-29%)	(-28%)	(-13%)	(-12%)	(-10%)	(-14%)	(-18%)	(-14%)	(-22%)	(-10%)	(-13%)	(-6%)	(-18%)	(-12%)
		DROUGHT	25	40	-160	-73	-192	-100	-363	-299	13	34	-186	-174	-206	-198	-93	-93	20	-20	-178	-140	-151	-15	-8	27	-113	-74
			(4%)	(6%)	(-23%)	(-12%)	(-24%)	(-14%)	(-47%)	(-42%)	(2%)	(5%)	(-29%)	(-28%)	(-33%)	(-32%)	(-17%)	(-17%)	(5%)	(-4%)	(-33%)	(-28%)	(-21%)	(-3%)	(-1%)	(4%)	(-18%)	(-12%)
	Jones PP	ALL	-33	-8	-120	-16	-113	-32	-229	-170	-156	-150	-149	-141	-62	-58	-74	-71	-57	-103	-48	-53	-40	11	-65	-37	-95	-68
			(-6%)	(-1%)	(-19%)	(-3%)	(-16%)	(-5%)	(-32%)	(-26%)	(-25%)	(-24%)	(-25%)	(-24%)	(-13%)	(-12%)	(-17%)	(-16%)	(-14%)	(-23%)	(-10%)	(-11%)	(-7%)	(2%)	(-12%)	(-7%)	(-17%)	(-13%)
		DROUGHT	-43	-53	-97	-16	-161	-87	-416	-335	-297	-283	-281	-272	-71	-75	-136	-130	-49	-89	-59	-28	-84	26	-45	-27	-135	-104
			(-7%)	(-8%)	(-14%)	(-3%)	(-20%)	(-12%)	(-49%)	(-44%)	(-35%)	(-34%)	(-33%)	(-32%)	(-11%)	(-12%)	(-24%)	(-23%)	(-12%)	(-20%)	(-11%)	(-5%)	(-12%)	(5%)	(-7%)	(-4%)	(-20%)	(-16%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-15A. Period average change in EC levels for Alternative 4-H1 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 4 Scn H1	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton	ALL	-424	51	-206	119	57	-25	-65	-131	12	-64	60	3	91	34	197	103	314	173	432	383	622	455	541	422	136	127
			(-19%)	(3%)	(-10%)	(7%)	(5%)	(-2%)	(-11%)	(-19%)	(3%)	(-13%)	(22%)	(1%)	(33%)	(10%)	(41%)	(18%)	(38%)	(18%)	(45%)	(38%)	(46%)	(30%)	(25%)	(19%)	(13%)	(12%)
		DROUGHT	-784	-257	-321	-44	-64	-254	94	-125	195	-26	87	21	124	56	471	233	676	282	1083	876	774	441	10	-667	195	45
			(-27%)	(-11%)	(-11%)	(-2%)	(-3%)	(-12%)	(11%)	(-12%)	(35%)	(-3%)	(27%)	(5%)	(42%)	(15%)	(80%)	(28%)	(65%)	(20%)	(81%)	(57%)	(45%)	(21%)	(0%)	(-18%)	(13%)	(3%)
	SJR at Jersey Point	ALL	-684	4	-892	-249	-388	-155	-220	-205	-58	-94	24	-10	39	11	53	6	140	52	-248	-3	17	185	83	234	-178	-19
			(-35%)	(0%)	(-40%)	(-16%)	(-23%)	(-11%)	(-26%)	(-24%)	(-13%)	(-19%)	(8%)	(-3%)	(14%)	(4%)	(15%)	(1%)	(26%)	(8%)	(-17%)	(-0%)	(1%)	(14%)	(4%)	(12%)	(-16%)	(-2%)
		DROUGHT	-780	-168	-851	-321	-542	-204	-243	-261	26	-104	47	6	50	18	151	19	329	68	-414	-118	28	257	-129	-482	-194	-108
			(-34%)	(-10%)	(-33%)	(-16%)	(-25%)	(-11%)	(-22%)	(-23%)	(5%)	(-15%)	(15%)	(2%)	(18%)	(6%)	(38%)	(4%)	(49%)	(7%)	(-19%)	(-6%)	(1%)	(15%)	(-5%)	(-17%)	(-14%)	(-8%)
Interior Delta	S. Fork Moke. R. Term.	ALL	8	8	9	9	4	5	4	9	6	10	13	15	12	13	9	10	14	15	10	10	11	10	9	8	9	10
			(4%)	(5%)	(5%)	(5%)	(2%)	(3%)	(2%)	(4%)	(2%)	(4%)	(6%)	(7%)	(6%)	(7%)	(5%)	(5%)	(7%)	(8%)	(5%)	(5%)	(6%)	(5%)	(5%)	(5%)	(5%)	(5%)
		DROUGHT	7	8	8	8	4	5	1	5	-2	4	7	13	5	8	8	10	19	20	16	16	10	10	8	8	8	10
			(4%)	(4%)	(4%)	(4%)	(2%)	(2%)	(0%)	(2%)	(-1%)	(1%)	(3%)	(5%)	(2%)	(4%)	(4%)	(5%)	(10%)	(10%)	(8%)	(8%)	(6%)	(5%)	(4%)	(4%)	(4%)	(5%)
	SJR at San And. Landing	ALL	51	119	-95	23	-32	20	-33	-17	5	-3	19	12	24	20	31	21	71	51	55	82	123	151	230	201	37	57
			(10%)	(27%)	(-15%)	(5%)	(-5%)	(4%)	(-8%)	(-4%)	(2%)	(-1%)	(8%)	(5%)	(10%)	(9%)	(12%)	(8%)	(29%)	(19%)	(14%)	(23%)	(29%)	(38%)	(44%)	(36%)	(9%)	(15%)
		DROUGHT	63	90	-42	35	-5	41	-40	2	47	9	30	21	24	21	51	27	136	74	75	120	163	206	206	76	59	60
			(10%)	(15%)	(-6%)	(5%)	(-1%)	(6%)	(-7%)	(0%)	(14%)	(2%)	(12%)	(8%)	(10%)	(9%)	(21%)	(10%)	(54%)	(23%)	(14%)	(25%)	(29%)	(40%)	(32%)	(10%)	(13%)	(13%)
Southern Delta	SJR at Vernalis	ALL	4	0	-35	0	-43	5	-82	1	-10	0	-28	0	-10	0	-5	0	57	0	38	0	8	1	-16	-1	-10	1
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(0%)	(-2%)	(0%)	(-4%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-9	0	-5	0	-7	0	-19	-3	-21	0
			(-1%)	(0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	2	0	-33	0	-43	7	-83	-4	-14	0	-28	-1	-12	-5	-5	-1	55	1	35	13	11	9	-14	-1	-11	2
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-3%)	(-1%)	(-1%)	(-0%)	(10%)	(0%)	(6%)	(2%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-53	4	-67	-3	-13	2	-19	-2	-7	-11	-9	-2	-8	0	-16	44	-7	33	-17	-3	-22	5
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-2%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(7%)	(-1%)	(5%)	(-3%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	7	6	-32	1	-43	5	-73	7	-11	2	-25	2	-3	6	-3	2	54	0	39	3	11	1	-14	-1	-8	3
			(1%)	(1%)	(-6%)	(0%)	(-6%)	(1%)	(-10%)	(1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(10%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-1%)	(0%)
		DROUGHT	-3	4	-38	1	-54	0	-58	7	-11	2	-14	4	10	10	-5	3	-8	0	-4	8	-6	2	-18	-3	-17	3
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-1%)	(0%)	(-2%)	(0%)	(2%)	(2%)	(-1%)	(1%)	(-1%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
	Old River at Tracy Bridge	ALL	16	23	-20	7	-46	3	-55	25	-6	12	-17	10	21	31	3	9	41	-7	33	2	5	11	-13	8	-3	11
			(3%)	(4%)	(-4%)	(1%)	(-6%)	(0%)	(-7%)	(4%)	(-1%)	(2%)	(-3%)	(2%)	(4%)	(7%)	(1%)	(2%)	(8%)	(-1%)	(6%)	(0%)	(1%)	(2%)	(-2%)	(1%)	(-1%)	(2%)
		DROUGHT	10	18	-25	13	-56	-1	-49	15	-15	3	-1	16	56	56	4	12	-33	-3	-36	-2	-36	17	-17	18	-17	13
			(2%)	(3%)	(-4%)	(2%)	(-7%)	(-0%)	(-5%)	(2%)	(-2%)	(0%)	(-0%)	(2%)	(9%)	(9%)	(1%)	(2%)	(-5%)	(-1%)	(-5%)	(-0%)	(-5%)	(3%)	(-3%)	(3%)	(-2%)	(2%)
SJR	SJR at Prisoners Point	ALL	-22	39	-154	-28	-113	-28	-51	-12	24	38	50	61	47	67	37	46	57	58	-12	33	13	75	74	90	-4	37
			(-4%)	(9%)	(-26%)	(-6%)	(-18%)	(-5%)	(-10%)	(-3%)	(6%)	(10%)	(15%)	(19%)	(14%)	(21%)	(12%)	(15%)	(20%)	(20%)	(-3%)	(9%)	(3%)	(19%)	(14%)	(18%)	(-1%)	(9%)
		DROUGHT	-23	4	-128	-34	-111	-21	-96	-20	36	39	86	104	73	94	69	66	96	55	-55	8	-10	94	73	35	1	35
			(-4%)	(1%)	(-20%)	(-6%)	(-15%)	(-3%)	(-16%)	(-4%)	(9%)	(9%)	(22%)	(28%)	(20%)	(28%)	(22%)	(21%)	(36%)	(18%)	(-10%)	(2%)	(-2%)	(19%)	(12%)	(5%)	(0%)	(7%)
Export Area	Banks PP	ALL	-53	-13	-173	-53	-198	-104	-230	-179	-158	-148	-190	-183	-153	-144	-40	-37	-50	-69	-78	-58	-113	-41	-46	-8	-124	-87
			(-9%)	(-2%)	(-27%)	(-10%)	(-29%)	(-18%)	(-35%)	(-29%)	(-29%)	(-28%)	(-40%)	(-39%)	(-33%)	(-32%)	(-9%)	(-9%)	(-13%)	(-17%)	(-18%)	(-14%)	(-21%)	(-9%)	(-8%)	(-2%)	(-23%)	(-18%)
		DROUGHT	-6	8	-126	-40	-200	-108	-285	-220	-201	-180	-287	-275	-220	-212	-78	-78	48	8	-109	-71	-159	-24	16	51	-134	-95
			(-1%)	(1%)	(-18%)	(-6%)	(-25%)	(-15%)	(-37%)	(-31%)	(-31%)	(-28%)	(-45%)	(-44%)	(-35%)	(-34%)	(-14%)	(-14%)	(11%)	(2%)	(-21%)	(-14%)	(-22%)	(-4%)	(3%)	(8%)	(-21%)	(-16%)
	Jones PP	ALL	-89	-63	-169	-65	-128	-47	-190	-131	-153	-147	-173	-165	-100	-96	-97	-93	-85	-132	-53	-58	-37	13	-103	-75	-115	-88
			(-16%)	(-12%)	(-27%)	(-12%)	(-18%)	(-8%)	(-27%)	(-20%)	(-25%)	(-24%)	(-29%)	(-28%)	(-21%)	(-20%)	(-22%)	(-21%)	(-22%)	(-30%)	(-11%)	(-12%)	(-7%)	(3%)	(-19%)	(-14%)	(-21%)	(-17%)
		DROUGHT	-80	-90	-129	-48	-124	-50	-206	-125	-188	-174	-214	-206	-107	-111	-165	-159	-49	-88	-128	-97	-73	37	27	45	-120	-89
			(-13%)	(-14%)	(-18%)	(-8%)	(-15%)	(-7%)	(-24%)	(-16%)	(-22%)	(-21%)	(-25%)	(-24%)	(-16%)	(-17%)	(-29%)	(-28%)	(-12%)	(-20%)	(-23%)	(-19%)	(-11%)	(6%)	(4%)	(7%)	(-17%)	(-14%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-15B. Period average change in EC levels for Alternative 4-H2 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 4 LLT Scn H2	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton	ALL	-450	25	-199	125	185	103	-87	-153	-1	-78	52	-4	82	25	175	82	319	178	518	470	654	487	584	465	153	144
			(-21%)	(1%)	(-9%)	(7%)	(15%)	(8%)	(-14%)	(-23%)	(-0%)	(-16%)	(19%)	(-1%)	(30%)	(7%)	(37%)	(14%)	(39%)	(19%)	(54%)	(47%)	(49%)	(32%)	(27%)	(21%)	(14%)	(13%)
		DROUGHT	-1092	-565	-493	-217	373	183	-7	-227	141	-80	91	26	123	55	458	220	691	297	1108	901	820	487	-46	-724	181	30
			(-37%)	(-24%)	(-17%)	(-8%)	(20%)	(9%)	(-1%)	(-21%)	(26%)	(-10%)	(29%)	(7%)	(42%)	(15%)	(78%)	(27%)	(67%)	(21%)	(83%)	(59%)	(47%)	(24%)	(-2%)	(-20%)	(12%)	(2%)
	SJR at Jersey Point	ALL	-689	-1	-876	-233	-410	-177	-238	-223	-67	-103	22	-12	37	9	50	3	124	37	-295	-51	-4	164	49	200	-192	-32
			(-35%)	(-0%)	(-40%)	(-15%)	(-25%)	(-12%)	(-28%)	(-26%)	(-15%)	(-21%)	(7%)	(-4%)	(14%)	(3%)	(14%)	(1%)	(23%)	(6%)	(-21%)	(-4%)	(-0%)	(12%)	(2%)	(10%)	(-17%)	(-3%)
		DROUGHT	-922	-310	-933	-403	-450	-112	-230	-248	-10	-140	48	7	51	19	145	13	305	43	-348	-52	41	270	-145	-498	-204	-117
			(-40%)	(-18%)	(-36%)	(-20%)	(-20%)	(-6%)	(-21%)	(-22%)	(-2%)	(-21%)	(15%)	(2%)	(18%)	(6%)	(36%)	(2%)	(46%)	(5%)	(-16%)	(-3%)	(2%)	(16%)	(-6%)	(-18%)	(-14%)	(-9%)
Interior Delta	S. Fork Moke. R. Term.	ALL	8	9	9	9	6	7	5	10	6	11	13	15	12	13	9	10	15	16	12	13	11	10	9	9	10	11
			(4%)	(5%)	(5%)	(4%)	(3%)	(3%)	(2%)	(4%)	(3%)	(4%)	(6%)	(7%)	(6%)	(6%)	(5%)	(5%)	(8%)	(9%)	(6%)	(7%)	(6%)	(5%)	(5%)	(5%)	(5%)	(5%)
		DROUGHT	7	7	9	9	6	7	1	5	-2	3	9	14	7	10	9	11	20	21	15	15	11	10	7	8	8	10
			(4%)	(4%)	(4%)	(4%)	(3%)	(4%)	(0%)	(2%)	(-1%)	(1%)	(4%)	(6%)	(3%)	(5%)	(5%)	(6%)	(10%)	(11%)	(8%)	(8%)	(6%)	(5%)	(4%)	(4%)	(4%)	(5%)
	SJR at San And. Landing	ALL	56	124	-91	27	-29	24	-38	-22	5	-3	21	14	28	24	34	24	74	53	41	68	107	135	218	188	35	55
			(11%)	(28%)	(-15%)	(5%)	(-5%)	(4%)	(-9%)	(-5%)	(2%)	(-1%)	(9%)	(6%)	(12%)	(10%)	(14%)	(9%)	(30%)	(20%)	(11%)	(19%)	(25%)	(34%)	(42%)	(34%)	(9%)	(15%)
		DROUGHT	22	49	-76	1	26	72	-24	18	40	1	34	26	41	38	65	41	136	73	86	130	185	229	190	60	60	62
			(4%)	(8%)	(-11%)	(0%)	(4%)	(11%)	(-4%)	(4%)	(12%)	(0%)	(14%)	(10%)	(17%)	(16%)	(26%)	(15%)	(54%)	(23%)	(16%)	(27%)	(33%)	(45%)	(30%)	(8%)	(13%)	(13%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-85	-2	-11	0	-28	0	-10	0	-5	0	57	1	38	1	9	1	-16	-1	-11	0
			(1%)	(0%)	(-6%)	(-0%)	(-6%)	(0%)	(-11%)	(-0%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-7	1	-3	2	-5	2	-19	-4	-20	0
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(0%)
	SJR at Brandt Bridge	ALL	1	0	-33	0	-47	4	-86	-7	-14	0	-28	-1	-12	-5	-6	-1	55	1	36	14	12	10	-14	-1	-11	1
			(0%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-3%)	(-1%)	(-1%)	(-0%)	(10%)	(0%)	(6%)	(2%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-51	5	-67	-3	-13	2	-19	-2	-7	-12	-9	-2	-7	1	-12	47	-5	34	-17	-3	-21	6
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-2%)	(-2%)	(-0%)	(-1%)	(0%)	(-2%)	(8%)	(-1%)	(6%)	(-3%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	6	5	-32	0	-48	0	-77	4	-12	2	-25	2	-3	6	-3	2	54	0	39	3	11	2	-15	-1	-9	2
			(1%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-10%)	(1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(10%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-1%)	(0%)
		DROUGHT	-3	4	-38	1	-54	0	-58	7	-11	2	-14	4	11	11	-5	3	-7	1	-2	9	-4	4	-18	-3	-17	4
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-1%)	(0%)	(-1%)	(0%)	(2%)	(2%)	(-1%)	(1%)	(-1%)	(0%)	(-0%)	(1%)	(-1%)	(1%)	(-3%)	(-0%)	(-2%)	(1%)
	Old River at Tracy Bridge	ALL	15	22	-20	7	-50	-1	-59	21	-7	11	-17	11	25	35	3	9	44	-3	34	4	2	8	-17	4	-4	10
			(3%)	(4%)	(-4%)	(1%)	(-7%)	(-0%)	(-8%)	(3%)	(-1%)	(2%)	(-2%)	(2%)	(5%)	(8%)	(1%)	(2%)	(9%)	(-1%)	(6%)	(1%)	(0%)	(1%)	(-3%)	(1%)	(-1%)	(2%)
		DROUGHT	7	15	-28	10	-56	-1	-49	16	-15	2	0	17	69	69	5	13	-20	10	-30	3	-44	9	-30	5	-16	14
			(1%)	(2%)	(-4%)	(2%)	(-7%)	(-0%)	(-5%)	(2%)	(-2%)	(0%)	(-0%)	(2%)	(11%)	(11%)	(1%)	(2%)	(-3%)	(2%)	(-5%)	(0%)	(-6%)	(1%)	(-4%)	(1%)	(-2%)	(2%)
SJR	SJR at Prisoners Point	ALL	-16	45	-151	-25	-124	-38	-61	-22	31	45	61	72	64	84	47	55	67	68	-9	36	-4	58	60	76	-3	38
			(-3%)	(10%)	(-25%)	(-5%)	(-20%)	(-7%)	(-12%)	(-5%)	(8%)	(12%)	(18%)	(22%)	(19%)	(27%)	(15%)	(18%)	(23%)	(23%)	(-2%)	(10%)	(-1%)	(15%)	(12%)	(15%)	(-1%)	(9%)
		DROUGHT	-36	-9	-139	-45	-129	-40	-84	-8	43	47	105	123	123	144	97	95	105	63	-49	14	11	115	70	33	10	44
			(-6%)	(-2%)	(-21%)	(-8%)	(-18%)	(-6%)	(-14%)	(-2%)	(10%)	(11%)	(27%)	(33%)	(34%)	(43%)	(32%)	(30%)	(39%)	(20%)	(-9%)	(3%)	(2%)	(23%)	(12%)	(5%)	(2%)	(9%)
Export Area	Banks PP	ALL	-40	0	-170	-50	-206	-112	-232	-181	-158	-149	-142	-135	-176	-167	-80	-77	-78	-98	-58	-39	-99	-26	-44	-6	-122	-85
			(-7%)	(0%)	(-27%)	(-10%)	(-30%)	(-19%)	(-35%)	(-30%)	(-29%)	(-28%)	(-30%)	(-29%)	(-38%)	(-37%)	(-18%)	(-18%)	(-20%)	(-24%)	(-13%)	(-9%)	(-19%)	(-6%)	(-8%)	(-1%)	(-23%)	(-17%)
		DROUGHT	-38	-23	-146	-59	-277	-185	-222	-158	-179	-159	-224	-212	-303	-294	-208	-208	-36	-76	-105	-67	-105	30	-28	7	-156	-117
			(-6%)	(-4%)	(-21%)	(-10%)	(-34%)	(-26%)	(-29%)	(-22%)	(-27%)	(-25%)	(-35%)	(-34%)	(-48%)	(-47%)	(-38%)	(-38%)	(-9%)	(-16%)	(-20%)	(-14%)	(-15%)	(5%)	(-4%)	(1%)	(-24%)	(-19%)
	Jones PP	ALL	-108	-83	-188	-84	-190	-109	-213	-154	-209	-203	-228	-220	-131	-127	-72	-68	-38	-85	-70	-75	-68	-17	-101	-73	-135	-108
			(-19%)	(-16%)	(-30%)	(-16%)	(-27%)	(-18%)	(-30%)	(-24%)	(-34%)	(-33%)	(-38%)	(-38%)	(-27%)	(-27%)	(-16%)	(-16%)	(-10%)	(-19%)	(-15%)	(-16%)	(-13%)	(-4%)	(-18%)	(-14%)	(-24%)	(-20%)
		DROUGHT	-132	-141	-166	-85	-159	-86	-259	-179	-284	-270	-340	-332	-205	-209	-102	-97	12	-28	-126	-94	-92	18	-40	-22	-158	-127
			(-20%)	(-22%)	(-24%)	(-14%)	(-20%)	(-12%)	(-31%)	(-23%)	(-34%)	(-33%)	(-40%)	(-39%)	(-32%)	(-32%)	(-18%)	(-17%)	(3%)	(-6%)	(-23%)	(-18%)	(-13%)	(3%)	(-6%)	(-4%)	(-23%)	(-19%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-15C. Period average change in EC levels for Alternative 4-H3 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 4 Scn H3	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton	ALL	-813	-338	-532	-207	-163	-244	-122	-189	8	-68	68	12	94	38	194	101	319	178	456	407	667	500	-157	-276	2	-7
			(-37%)	(-20%)	(-25%)	(-12%)	(-13%)	(-18%)	(-20%)	(-28%)	(2%)	(-14%)	(25%)	(4%)	(34%)	(11%)	(41%)	(18%)	(39%)	(19%)	(47%)	(40%)	(50%)	(33%)	(-7%)	(-12%)	(0%)	(-1%)
		DROUGHT	-1098	-571	-687	-411	-290	-480	-111	-330	129	-92	94	28	131	62	485	247	709	315	1070	863	841	508	49	-628	110	-41
			(-38%)	(-24%)	(-24%)	(-16%)	(-15%)	(-23%)	(-13%)	(-31%)	(23%)	(-12%)	(30%)	(7%)	(44%)	(17%)	(83%)	(30%)	(69%)	(22%)	(80%)	(56%)	(48%)	(25%)	(2%)	(-17%)	(8%)	(-3%)
	SJR at Jersey Point	ALL	-994	-306	-1101	-458	-682	-448	-328	-313	-82	-118	24	-10	38	10	55	8	139	52	-251	-6	10	179	-476	-325	-304	-145
			(-51%)	(-24%)	(-50%)	(-29%)	(-41%)	(-31%)	(-38%)	(-37%)	(-18%)	(-24%)	(8%)	(-3%)	(14%)	(3%)	(15%)	(2%)	(25%)	(8%)	(-18%)	(-1%)	(1%)	(13%)	(-23%)	(-17%)	(-27%)	(-15%)
		DROUGHT	-1022	-410	-1073	-543	-805	-467	-399	-417	-52	-182	42	1	47	15	160	28	343	82	-420	-125	8	237	-76	-429	-271	-184
			(-44%)	(-24%)	(-42%)	(-27%)	(-37%)	(-25%)	(-36%)	(-37%)	(-10%)	(-27%)	(13%)	(0%)	(17%)	(5%)	(40%)	(5%)	(51%)	(9%)	(-19%)	(-7%)	(0%)	(14%)	(-3%)	(-15%)	(-19%)	(-14%)
Interior Delta	S. Fork Moke. R. Term.	ALL	9	9	10	9	5	6	5	10	6	10	13	15	13	14	9	10	14	15	10	11	11	10	8	7	9	11
			(5%)	(5%)	(5%)	(5%)	(2%)	(3%)	(2%)	(4%)	(2%)	(4%)	(6%)	(7%)	(6%)	(7%)	(5%)	(5%)	(7%)	(8%)	(5%)	(6%)	(6%)	(5%)	(4%)	(4%)	(5%)	(5%)
		DROUGHT	8	8	8	8	3	4	1	5	-2	3	9	14	6	9	8	10	19	20	16	16	11	10	8	9	8	10
			(4%)	(4%)	(4%)	(4%)	(2%)	(2%)	(0%)	(2%)	(-1%)	(1%)	(4%)	(6%)	(3%)	(4%)	(4%)	(5%)	(10%)	(10%)	(8%)	(8%)	(6%)	(6%)	(4%)	(5%)	(4%)	(5%)
	SJR at San And. Landing	ALL	-39	29	-139	-20	-120	-67	-83	-67	-8	-16	18	11	25	22	32	22	71	51	55	82	123	152	85	55	2	21
			(-8%)	(6%)	(-22%)	(-4%)	(-20%)	(-12%)	(-20%)	(-16%)	(-3%)	(-5%)	(8%)	(4%)	(11%)	(9%)	(13%)	(9%)	(29%)	(19%)	(14%)	(23%)	(29%)	(38%)	(16%)	(10%)	(0%)	(6%)
		DROUGHT	-26	0	-105	-28	-103	-57	-99	-57	14	-24	26	18	27	25	56	32	141	78	73	118	163	207	219	89	32	33
			(-4%)	(0%)	(-15%)	(-4%)	(-14%)	(-8%)	(-18%)	(-11%)	(4%)	(-7%)	(11%)	(7%)	(11%)	(10%)	(23%)	(12%)	(56%)	(25%)	(14%)	(24%)	(29%)	(40%)	(34%)	(12%)	(7%)	(7%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-82	1	-10	0	-28	0	-10	0	-5	0	56	0	38	0	7	0	-16	-1	-11	0
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-9	0	-5	0	-7	0	-17	-2	-21	0
			(-1%)	(0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	1	0	-33	0	-47	3	-83	-4	-14	0	-28	-1	-12	-5	-6	-1	55	0	36	13	11	9	-14	0	-11	1
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-3%)	(-1%)	(-1%)	(-0%)	(10%)	(0%)	(6%)	(2%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-53	3	-67	-3	-13	2	-19	-2	-7	-12	-9	-2	-8	0	-14	45	-7	33	-16	-1	-22	5
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-2%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(7%)	(-1%)	(5%)	(-2%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	6	5	-32	1	-48	0	-74	7	-11	2	-25	2	-3	6	-3	2	54	0	39	3	10	1	-14	0	-8	2
			(1%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-10%)	(1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(10%)	(-0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-1%)	(0%)
		DROUGHT	-3	4	-38	1	-54	0	-58	7	-11	2	-14	4	11	11	-5	3	-8	0	-4	8	-6	2	-16	-1	-17	3
			(-1%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-1%)	(0%)	(-2%)	(0%)	(2%)	(2%)	(-1%)	(1%)	(-1%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
	Old River at Tracy Bridge	ALL	4	11	-23	5	-50	-1	-55	24	-6	12	-17	10	24	35	3	9	41	-6	33	2	7	13	-11	9	-4	10
			(1%)	(2%)	(-4%)	(1%)	(-7%)	(-0%)	(-7%)	(3%)	(-1%)	(2%)	(-3%)	(2%)	(5%)	(7%)	(1%)	(2%)	(8%)	(-1%)	(6%)	(0%)	(1%)	(2%)	(-2%)	(2%)	(-1%)	(2%)
		DROUGHT	3	11	-26	12	-55	0	-49	15	-14	3	-1	16	67	67	4	12	-29	0	-34	-1	-29	24	-16	19	-15	15
			(1%)	(2%)	(-4%)	(2%)	(-7%)	(-0%)	(-5%)	(2%)	(-2%)	(0%)	(-0%)	(2%)	(10%)	(10%)	(1%)	(2%)	(-5%)	(0%)	(-5%)	(-0%)	(-4%)	(4%)	(-2%)	(3%)	(-2%)	(2%)
SJR	SJR at Prisoners Point	ALL	-53	8	-149	-23	-181	-95	-104	-65	17	31	49	60	53	73	40	48	57	57	-12	32	9	72	14	30	-22	19
			(-11%)	(2%)	(-25%)	(-5%)	(-29%)	(-18%)	(-20%)	(-14%)	(4%)	(8%)	(15%)	(18%)	(16%)	(23%)	(13%)	(16%)	(20%)	(20%)	(-3%)	(9%)	(2%)	(18%)	(3%)	(6%)	(-5%)	(5%)
		DROUGHT	-49	-22	-143	-49	-193	-104	-148	-73	19	22	89	107	90	111	78	76	100	59	-52	11	-18	87	81	43	-12	22
			(-8%)	(-4%)	(-22%)	(-9%)	(-26%)	(-16%)	(-24%)	(-14%)	(4%)	(5%)	(23%)	(29%)	(25%)	(33%)	(25%)	(24%)	(37%)	(19%)	(-9%)	(2%)	(-3%)	(17%)	(13%)	(7%)	(-2%)	(5%)
Export Area	Banks PP	ALL	-88	-47	-225	-105	-247	-153	-293	-242	-160	-151	-167	-160	-177	-168	-48	-45	-42	-61	-58	-38	-116	-43	-90	-51	-140	-103
			(-16%)	(-9%)	(-36%)	(-20%)	(-36%)	(-26%)	(-44%)	(-40%)	(-30%)	(-29%)	(-35%)	(-34%)	(-38%)	(-37%)	(-11%)	(-11%)	(-11%)	(-15%)	(-13%)	(-9%)	(-22%)	(-10%)	(-16%)	(-10%)	(-26%)	(-21%)
		DROUGHT	-29	-14	-194	-107	-309	-217	-425	-360	-189	-168	-306	-294	-282	-273	-70	-70	58	19	-66	-28	-201	-66	38	72	-154	-115
			(-4%)	(-2%)	(-27%)	(-17%)	(-38%)	(-30%)	(-55%)	(-51%)	(-29%)	(-26%)	(-48%)	(-47%)	(-45%)	(-44%)	(-13%)	(-13%)	(14%)	(4%)	(-12%)	(-6%)	(-28%)	(-11%)	(6%)	(12%)	(-24%)	(-19%)
	Jones PP	ALL	-133	-107	-220	-117	-164	-83	-228	-169	-194	-189	-219	-211	-108	-104	-91	-88	-80	-126	-57	-62	-30	21	-103	-75	-135	-109
			(-24%)	(-20%)	(-35%)	(-22%)	(-23%)	(-13%)	(-32%)	(-26%)	(-31%)	(-31%)	(-37%)	(-36%)	(-23%)	(-22%)	(-21%)	(-20%)	(-20%)	(-29%)	(-12%)	(-13%)	(-6%)	(4%)	(-19%)	(-14%)	(-24%)	(-21%)
		DROUGHT	-93	-103	-174	-93	-147	-73	-387	-306	-293	-279	-268	-259	-137	-141	-154	-149	-39	-79	-137	-106	-74	37	31	49	-146	-115
			(-15%)	(-16%)	(-25%)	(-15%)	(-18%)	(-10%)	(-46%)	(-40%)	(-35%)	(-34%)	(-31%)	(-31%)	(-21%)	(-22%)	(-27%)	(-26%)	(-10%)	(-18%)	(-25%)	(-20%)	(-11%)	(6%)	(5%)	(8%)	(-21%)	(-18%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-15D. Period average change in EC levels for Alternative 4-H4 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 4 Scn H4	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton	ALL	-885	-409	-632	-307	-82	-164	-1	-68	42	-34	61	5	85	28	173	80	319	178	515	467	615	448	-172	-292	3	-6
			(-41%)	(-24%)	(-30%)	(-17%)	(-7%)	(-12%)	(-0%)	(-10%)	(10%)	(-7%)	(23%)	(2%)	(31%)	(8%)	(36%)	(14%)	(39%)	(19%)	(54%)	(46%)	(46%)	(30%)	(-8%)	(-13%)	(0%)	(-1%)
		DROUGHT	-1099	-572	-891	-614	-50	-241	99	-120	195	-26	96	31	118	49	453	215	690	296	1085	878	734	401	-106	-783	110	-40
			(-38%)	(-24%)	(-31%)	(-23%)	(-3%)	(-11%)	(12%)	(-11%)	(35%)	(-3%)	(30%)	(8%)	(40%)	(14%)	(77%)	(26%)	(67%)	(21%)	(81%)	(57%)	(42%)	(19%)	(-4%)	(-22%)	(8%)	(-3%)
	SJR at Jersey Point	ALL	-984	-295	-1195	-552	-650	-416	-247	-231	-50	-87	28	-5	41	13	51	4	126	39	-315	-71	7	176	-449	-298	-303	-144
			(-50%)	(-23%)	(-54%)	(-35%)	(-39%)	(-29%)	(-29%)	(-27%)	(-11%)	(-18%)	(10%)	(-2%)	(15%)	(4%)	(14%)	(1%)	(23%)	(6%)	(-22%)	(-6%)	(0%)	(13%)	(-22%)	(-16%)	(-27%)	(-15%)
		DROUGHT	-970	-358	-1244	-714	-779	-441	-248	-266	5	-125	52	12	49	17	142	10	311	50	-408	-112	49	278	-128	-481	-264	-178
			(-42%)	(-21%)	(-48%)	(-35%)	(-35%)	(-24%)	(-23%)	(-24%)	(1%)	(-19%)	(16%)	(3%)	(18%)	(5%)	(35%)	(2%)	(47%)	(5%)	(-19%)	(-6%)	(3%)	(16%)	(-5%)	(-17%)	(-19%)	(-13%)
Interior Delta	S. Fork Moke. R. Term.	ALL	8	8	9	9	5	6	7	12	7	11	13	15	12	13	9	10	15	16	13	13	10	9	8	7	10	11
			(4%)	(4%)	(5%)	(5%)	(2%)	(3%)	(3%)	(5%)	(3%)	(5%)	(6%)	(7%)	(6%)	(7%)	(5%)	(5%)	(8%)	(9%)	(7%)	(7%)	(6%)	(5%)	(4%)	(4%)	(5%)	(5%)
		DROUGHT	7	7	8	8	5	6	3	7	-1	4	9	14	7	10	9	11	20	21	16	16	10	9	7	8	8	10
			(4%)	(4%)	(4%)	(4%)	(3%)	(3%)	(1%)	(3%)	(-0%)	(2%)	(4%)	(6%)	(3%)	(5%)	(5%)	(6%)	(10%)	(11%)	(8%)	(8%)	(5%)	(5%)	(4%)	(4%)	(4%)	(5%)
	SJR at San And. Landing	ALL	-42	26	-163	-44	-121	-69	-45	-28	10	2	25	18	31	27	35	25	75	55	37	63	99	128	89	59	3	22
			(-8%)	(6%)	(-26%)	(-9%)	(-20%)	(-13%)	(-10%)	(-7%)	(4%)	(1%)	(11%)	(7%)	(13%)	(11%)	(14%)	(10%)	(30%)	(20%)	(9%)	(18%)	(23%)	(32%)	(17%)	(11%)	(1%)	(6%)
		DROUGHT	-25	1	-148	-71	-122	-76	-38	4	44	6	36	28	41	39	65	41	137	74	67	112	159	202	199	69	35	36
			(-4%)	(0%)	(-21%)	(-11%)	(-17%)	(-11%)	(-7%)	(1%)	(13%)	(2%)	(15%)	(11%)	(17%)	(16%)	(26%)	(15%)	(54%)	(23%)	(13%)	(23%)	(29%)	(40%)	(31%)	(9%)	(7%)	(8%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-96	-13	-11	-1	-28	0	-11	0	-6	0	56	0	38	0	7	0	-17	-2	-12	-1
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(-0%)	(-13%)	(-2%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(11%)	(-0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-20	0	-5	-1	-10	-1	-9	0	-5	0	-7	0	-20	-4	-21	0
			(-1%)	(0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	1	0	-33	0	-47	3	-96	-17	-15	-1	-28	-1	-12	-6	-6	-1	54	0	35	12	11	9	-15	-1	-13	0
			(0%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-13%)	(-3%)	(-2%)	(-0%)	(-4%)	(-0%)	(-3%)	(-1%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(2%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-7	0	-39	0	-52	4	-67	-3	-13	2	-20	-3	-8	-12	-10	-2	-8	0	-16	43	-7	33	-18	-3	-22	5
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-2%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(7%)	(-1%)	(5%)	(-3%)	(-1%)	(-3%)	(1%)
	Old River at Middle River	ALL	6	5	-32	1	-48	0	-87	-6	-13	1	-25	2	-3	6	-4	2	53	-1	39	3	10	1	-15	-1	-10	1
			(1%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-12%)	(-1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(10%)	(-0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-3	4	-38	1	-54	0	-58	7	-11	2	-14	4	10	10	-6	3	-8	0	-4	8	-6	2	-19	-4	-18	3
			(-1%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-1%)	(0%)	(-2%)	(0%)	(2%)	(2%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(1%)	(-1%)	(0%)	(-3%)	(-1%)	(-2%)	(0%)
	Old River at Tracy Bridge	ALL	6	13	-22	6	-49	-1	-64	15	-9	9	-17	11	25	35	3	8	45	-3	35	5	1	7	-16	5	-5	9
			(1%)	(3%)	(-4%)	(1%)	(-6%)	(-0%)	(-8%)	(2%)	(-1%)	(1%)	(-2%)	(2%)	(5%)	(7%)	(1%)	(2%)	(9%)	(-0%)	(6%)	(1%)	(0%)	(1%)	(-3%)	(1%)	(-1%)	(2%)
		DROUGHT	5	12	-24	14	-54	1	-49	16	-15	3	-1	17	69	69	4	12	-18	12	-28	5	-44	9	-27	8	-15	15
			(1%)	(2%)	(-4%)	(2%)	(-6%)	(0%)	(-5%)	(2%)	(-2%)	(0%)	(-0%)	(2%)	(11%)	(11%)	(1%)	(2%)	(-3%)	(2%)	(-4%)	(1%)	(-6%)	(1%)	(-4%)	(1%)	(-2%)	(2%)
SJR	SJR at Prisoners Point	ALL	-44	17	-166	-40	-189	-103	-82	-43	32	46	63	74	67	87	47	56	69	70	-9	35	-6	56	19	35	-17	24
			(-9%)	(4%)	(-28%)	(-8%)	(-31%)	(-19%)	(-16%)	(-9%)	(8%)	(12%)	(19%)	(23%)	(20%)	(27%)	(15%)	(18%)	(24%)	(24%)	(-2%)	(10%)	(-1%)	(14%)	(4%)	(7%)	(-4%)	(6%)
		DROUGHT	-41	-14	-166	-72	-224	-135	-116	-40	41	44	109	126	124	145	98	95	107	66	-57	6	-5	99	79	42	-4	30
			(-7%)	(-2%)	(-25%)	(-13%)	(-30%)	(-21%)	(-19%)	(-8%)	(10%)	(11%)	(28%)	(34%)	(35%)	(43%)	(32%)	(31%)	(40%)	(21%)	(-10%)	(1%)	(-1%)	(20%)	(13%)	(6%)	(-1%)	(6%)
Export Area	Banks PP	ALL	-55	-14	-250	-131	-255	-161	-284	-233	-154	-145	-140	-133	-141	-132	-72	-69	-82	-102	-70	-50	-93	-21	-152	-114	-146	-109
			(-10%)	(-3%)	(-40%)	(-25%)	(-38%)	(-28%)	(-43%)	(-38%)	(-29%)	(-27%)	(-29%)	(-28%)	(-30%)	(-29%)	(-17%)	(-16%)	(-21%)	(-25%)	(-16%)	(-12%)	(-18%)	(-5%)	(-28%)	(-22%)	(-27%)	(-22%)
		DROUGHT	-18	-3	-195	-109	-328	-236	-374	-310	-150	-130	-252	-240	-264	-255	-217	-216	-32	-71	-106	-68	-124	11	-18	17	-173	-134
			(-3%)	(-1%)	(-28%)	(-18%)	(-40%)	(-33%)	(-48%)	(-43%)	(-23%)	(-20%)	(-39%)	(-38%)	(-42%)	(-41%)	(-39%)	(-39%)	(-7%)	(-15%)	(-20%)	(-14%)	(-17%)	(2%)	(-3%)	(3%)	(-27%)	(-22%)
	Jones PP	ALL	-141	-116	-214	-110	-177	-95	-279	-220	-224	-218	-224	-216	-139	-134	-70	-67	-47	-93	-63	-68	-62	-12	-99	-71	-144	-117
			(-25%)	(-22%)	(-34%)	(-21%)	(-25%)	(-15%)	(-39%)	(-34%)	(-36%)	(-35%)	(-38%)	(-37%)	(-29%)	(-28%)	(-16%)	(-15%)	(-12%)	(-21%)	(-14%)	(-15%)	(-12%)	(-2%)	(-18%)	(-14%)	(-26%)	(-22%)
		DROUGHT	-120	-130	-189	-108	-197	-124	-434	-353	-367	-353	-309	-300	-202	-206	-99	-93	-7	-47	-68	-36	-90	21	30	48	-160	-129
			(-19%)	(-20%)	(-27%)	(-17%)	(-24%)	(-17%)	(-51%)	(-46%)	(-44%)	(-43%)	(-36%)	(-35%)	(-31%)	(-32%)	(-17%)	(-16%)	(-2%)	(-11%)	(-12%)	(-7%)	(-13%)	(4%)	(5%)	(8%)	(-23%)	(-20%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-16. Period average change in EC levels for Alternative 5 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 5 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1216	-741	-1141	-817	-463	-544	-178	-244	-89	-165	-8	-65	-11	-68	-44	-138	-120	-261	-160	-208	-189	-356	-860	-980	-373	-382
			(-56%)	(-43%)	(-54%)	(-46%)	(-37%)	(-41%)	(-29%)	(-36%)	(-22%)	(-34%)	(-3%)	(-20%)	(-4%)	(-20%)	(-9%)	(-24%)	(-15%)	(-27%)	(-17%)	(-21%)	(-14%)	(-24%)	(-40%)	(-43%)	(-35%)	(-35%)
		DROUGHT	-1665	-1138	-1628	-1351	-614	-805	-274	-493	-136	-357	-20	-86	-9	-77	29	-209	-31	-425	18	-189	-162	-496	-1029	-1706	-460	-611
			(-57%)	(-48%)	(-56%)	(-51%)	(-32%)	(-38%)	(-32%)	(-46%)	(-25%)	(-46%)	(-6%)	(-22%)	(-3%)	(-21%)	(5%)	(-25%)	(-3%)	(-30%)	(1%)	(-12%)	(-9%)	(-24%)	(-35%)	(-47%)	(-32%)	(-38%)
	Sac. R. at Emmaton	ALL	-632	-157	-582	-258	-15	-97	2	-65	26	-51	68	12	74	17	189	96	327	186	350	302	588	421	-69	-189	27	18
			(-29%)	(-9%)	(-28%)	(-15%)	(-1%)	(-7%)	(0%)	(-10%)	(6%)	(-11%)	(25%)	(4%)	(27%)	(5%)	(40%)	(17%)	(40%)	(19%)	(36%)	(30%)	(44%)	(28%)	(-3%)	(-8%)	(3%)	(2%)
		DROUGHT	-920	-393	-847	-571	152	-38	0	-220	67	-155	87	21	112	44	435	197	662	268	914	707	861	527	179	-498	142	-9
			(-32%)	(-16%)	(-29%)	(-22%)	(8%)	(-2%)	(-0%)	(-21%)	(12%)	(-20%)	(27%)	(5%)	(38%)	(12%)	(74%)	(24%)	(64%)	(19%)	(69%)	(46%)	(50%)	(25%)	(6%)	(-14%)	(10%)	(-1%)
	SJR at Jersey Point	ALL	-778	-89	-1003	-360	-480	-246	-74	-59	-6	-42	34	0	29	1	39	-8	138	51	-174	70	29	198	-491	-340	-228	-69
			(-40%)	(-7%)	(-46%)	(-23%)	(-29%)	(-17%)	(-9%)	(-7%)	(-1%)	(-9%)	(11%)	(-0%)	(11%)	(0%)	(11%)	(-2%)	(25%)	(8%)	(-12%)	(6%)	(2%)	(15%)	(-24%)	(-18%)	(-20%)	(-7%)
		DROUGHT	-765	-153	-1262	-732	-481	-143	-126	-144	-14	-144	43	2	32	0	118	-14	305	44	-362	-67	-16	213	-140	-493	-222	-136
			(-33%)	(-9%)	(-49%)	(-36%)	(-22%)	(-8%)	(-11%)	(-13%)	(-3%)	(-21%)	(13%)	(1%)	(12%)	(0%)	(29%)	(-3%)	(46%)	(5%)	(-17%)	(-4%)	(-1%)	(13%)	(-6%)	(-18%)	(-16%)	(-10%)
Interior Delta	S. Fork Moke. R. Term.	ALL	6	7	7	7	3	4	0	5	0	5	7	9	8	9	8	9	13	14	8	8	10	9	8	8	7	8
			(3%)	(4%)	(4%)	(4%)	(1%)	(2%)	(-0%)	(2%)	(0%)	(2%)	(3%)	(4%)	(4%)	(5%)	(4%)	(5%)	(7%)	(7%)	(4%)	(4%)	(5%)	(5%)	(5%)	(4%)	(3%)	(4%)
		DROUGHT	6	7	8	8	3	4	-2	2	-6	-1	4	10	4	7	7	9	18	19	14	14	11	11	9	10	6	8
			(3%)	(3%)	(4%)	(4%)	(2%)	(2%)	(-1%)	(1%)	(-2%)	(-0%)	(2%)	(4%)	(2%)	(3%)	(4%)	(5%)	(9%)	(10%)	(8%)	(8%)	(6%)	(6%)	(5%)	(5%)	(3%)	(4%)
	SJR at San And. Landing	ALL	-19	49	-93	26	-76	-24	21	37	21	13	16	9	10	6	18	9	57	37	56	83	138	166	93	63	20	39
			(-4%)	(11%)	(-15%)	(5%)	(-13%)	(-4%)	(5%)	(9%)	(7%)	(4%)	(7%)	(4%)	(4%)	(3%)	(8%)	(3%)	(23%)	(14%)	(15%)	(23%)	(32%)	(42%)	(18%)	(11%)	(5%)	(10%)
		DROUGHT	15	41	-131	-54	-36	11	35	77	48	10	15	7	5	2	30	6	117	54	69	114	165	209	216	86	46	47
			(2%)	(7%)	(-18%)	(-8%)	(-5%)	(2%)	(7%)	(16%)	(15%)	(3%)	(6%)	(3%)	(2%)	(1%)	(12%)	(2%)	(46%)	(17%)	(13%)	(24%)	(30%)	(41%)	(34%)	(11%)	(10%)	(10%)
Southern Delta	SJR at Vernalis	ALL	4	1	-35	0	-48	0	-85	-2	-11	0	-28	0	-10	0	-5	0	56	0	38	0	7	0	-16	-1	-11	0
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-0%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(11%)	(0%)	(7%)	(0%)	(1%)	(0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-4	0	-9	0	-9	0	-5	0	-7	0	-19	-3	-21	0
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-1%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	2	1	-33	0	-48	2	-84	-4	-14	0	-27	-1	-9	-2	-5	0	54	0	38	16	11	10	-14	-1	-11	2
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-1%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-1%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(3%)	(2%)	(2%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-54	2	-66	-2	-14	0	-18	-1	0	-5	-8	-1	-8	0	-6	53	-5	35	-17	-3	-20	7
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-0%)	(-1%)	(-1%)	(-0%)	(-1%)	(-0%)	(-1%)	(9%)	(-1%)	(6%)	(-3%)	(-0%)	(-3%)	(1%)
	Old River at Middle River	ALL	2	1	-32	1	-48	0	-83	-2	-13	0	-27	0	-8	0	-5	0	55	0	39	3	10	1	-14	0	-10	0
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-0%)	(-2%)	(-0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(10%)	(0%)	(7%)	(0%)	(2%)	(0%)	(-3%)	(-0%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-53	0	-65	1	-13	0	-18	0	1	1	-8	0	-8	1	-3	8	-6	2	-17	-2	-20	1
			(-1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-0%)	(1%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-4	3	-27	1	-48	1	-79	1	-17	1	-27	1	-7	3	-5	1	50	2	24	-7	1	7	-10	10	-12	2
			(-1%)	(1%)	(-5%)	(0%)	(-6%)	(0%)	(-10%)	(0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(1%)	(-1%)	(0%)	(10%)	(0%)	(4%)	(-1%)	(0%)	(1%)	(-2%)	(2%)	(-2%)	(0%)
		DROUGHT	-8	0	-39	-1	-53	2	-60	5	-16	2	-16	2	5	5	-7	1	-22	7	-59	-26	-45	7	-14	21	-28	2
			(-1%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-7%)	(1%)	(-2%)	(0%)	(-2%)	(0%)	(1%)	(1%)	(-1%)	(0%)	(-4%)	(1%)	(-9%)	(-4%)	(-7%)	(1%)	(-2%)	(3%)	(-4%)	(0%)
SJR	SJR at Prisoners Point	ALL	-44	18	-109	17	-146	-60	-33	6	-2	12	7	18	1	21	12	20	15	16	-10	34	25	87	6	22	-23	18
			(-9%)	(4%)	(-18%)	(4%)	(-24%)	(-11%)	(-6%)	(1%)	(-1%)	(3%)	(2%)	(6%)	(0%)	(7%)	(4%)	(7%)	(5%)	(5%)	(-2%)	(9%)	(5%)	(22%)	(1%)	(4%)	(-5%)	(4%)
		DROUGHT	-19	8	-166	-72	-156	-66	-33	42	9	12	-3	15	-5	16	17	15	67	26	-41	22	-17	87	56	19	-24	10
			(-3%)	(1%)	(-25%)	(-13%)	(-21%)	(-10%)	(-5%)	(8%)	(2%)	(3%)	(-1%)	(4%)	(-1%)	(5%)	(6%)	(5%)	(25%)	(8%)	(-7%)	(4%)	(-3%)	(17%)	(9%)	(3%)	(-5%)	(2%)
Export Area	Banks PP	ALL	-85	-44	-188	-68	-182	-88	-160	-108	-53	-43	-70	-63	-123	-114	-42	-39	-24	-43	-104	-84	-119	-46	-67	-28	-101	-64
			(-15%)	(-8%)	(-30%)	(-13%)	(-27%)	(-15%)	(-24%)	(-18%)	(-10%)	(-8%)	(-14%)	(-13%)	(-27%)	(-25%)	(-10%)	(-9%)	(-6%)	(-10%)	(-24%)	(-21%)	(-23%)	(-10%)	(-12%)	(-6%)	(-19%)	(-13%)
		DROUGHT	-48	-33	-215	-128	-221	-129	-271	-206	3	23	-120	-108	-171	-162	-69	-68	25	-15	-164	-127	-219	-83	-19	15	-113	-74
			(-7%)	(-5%)	(-30%)	(-21%)	(-27%)	(-18%)	(-35%)	(-29%)	(0%)	(4%)	(-19%)	(-17%)	(-27%)	(-26%)	(-13%)	(-12%)	(6%)	(-3%)	(-31%)	(-26%)	(-30%)	(-14%)	(-3%)	(2%)	(-18%)	(-12%)
	Jones PP	ALL	-38	-13	-178	-75	-150	-68	-207	-148	-72	-66	-115	-108	-55	-51	-66	-63	-14	-60	-29	-34	-20	31	-80	-53	-85	-58
			(-7%)	(-2%)	(-29%)	(-14%)	(-21%)	(-11%)	(-29%)	(-23%)	(-12%)	(-11%)	(-19%)	(-18%)	(-12%)	(-11%)	(-15%)	(-14%)	(-3%)	(-14%)	(-6%)	(-7%)	(-4%)	(7%)	(-15%)	(-10%)	(-15%)	(-11%)
		DROUGHT	-19	-29	-158	-78	-178	-104	-467	-386	-126	-112	-189	-181	-49	-53	-116	-111	-7	-47	-50	-18	-76	35	0	18	-109	-78
			(-3%)	(-4%)	(-23%)	(-13%)	(-22%)	(-14%)	(-55%)	(-50%)	(-15%)	(-14%)	(-22%)	(-21%)	(-8%)	(-8%)	(-20%)	(-20%)	(-2%)	(-11%)	(-9%)	(-3%)	(-11%)	(6%)	(-0%)	(3%)	(-16%)	(-12%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-17. Period average change in EC levels for Alternative 6 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 6 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1581	-1106	-1556	-1231	-861	-943	-317	-384	-130	-206	-14	-70	0	-56	-65	-158	-178	-318	71	23	-366	-533	-1348	-1468	-529	-538
			(-72%)	(-65%)	(-74%)	(-69%)	(-69%)	(-71%)	(-52%)	(-57%)	(-32%)	(-43%)	(-5%)	(-21%)	(0%)	(-17%)	(-14%)	(-28%)	(-22%)	(-33%)	(7%)	(2%)	(-27%)	(-35%)	(-63%)	(-65%)	(-49%)	(-50%)
		DROUGHT	-2129	-1602	-2157	-1881	-1295	-1485	-437	-656	-196	-417	-25	-91	1	-68	-28	-266	-137	-531	266	59	-264	-597	-1666	-2343	-672	-823
			(-73%)	(-67%)	(-74%)	(-72%)	(-68%)	(-71%)	(-51%)	(-61%)	(-36%)	(-54%)	(-8%)	(-24%)	(0%)	(-19%)	(-5%)	(-32%)	(-13%)	(-37%)	(20%)	(4%)	(-15%)	(-29%)	(-57%)	(-65%)	(-46%)	(-51%)
	Sac. R. at Emmaton	ALL	-1207	-732	-1236	-912	-673	-755	-235	-301	-71	-148	29	-27	69	12	138	44	229	88	757	709	327	160	-810	-930	-224	-233
			(-55%)	(-43%)	(-59%)	(-51%)	(-54%)	(-57%)	(-38%)	(-44%)	(-18%)	(-31%)	(11%)	(-8%)	(25%)	(4%)	(29%)	(8%)	(28%)	(9%)	(79%)	(70%)	(24%)	(11%)	(-38%)	(-41%)	(-21%)	(-22%)
		DROUGHT	-1596	-1069	-1663	-1387	-908	-1099	-246	-465	-62	-283	48	-18	97	29	319	81	503	109	1329	1122	750	417	-772	-1449	-183	-334
			(-55%)	(-45%)	(-57%)	(-53%)	(-48%)	(-52%)	(-29%)	(-43%)	(-11%)	(-37%)	(15%)	(-5%)	(33%)	(8%)	(54%)	(10%)	(49%)	(8%)	(100%)	(73%)	(43%)	(20%)	(-26%)	(-40%)	(-13%)	(-21%)
	SJR at Jersey Point	ALL	-1486	-798	-1764	-1121	-1292	-1059	-504	-489	-87	-123	47	13	70	42	31	-16	3	-84	-521	-277	-701	-533	-1442	-1291	-637	-478
			(-76%)	(-63%)	(-80%)	(-72%)	(-77%)	(-74%)	(-59%)	(-58%)	(-19%)	(-25%)	(16%)	(4%)	(26%)	(14%)	(9%)	(-4%)	(1%)	(-13%)	(-37%)	(-24%)	(-46%)	(-39%)	(-70%)	(-67%)	(-56%)	(-49%)
		DROUGHT	-1733	-1121	-2032	-1502	-1698	-1360	-672	-690	-135	-265	65	24	93	62	69	-63	59	-202	-796	-501	-640	-411	-1451	-1804	-739	-653
			(-75%)	(-66%)	(-79%)	(-73%)	(-77%)	(-73%)	(-61%)	(-62%)	(-25%)	(-39%)	(20%)	(7%)	(34%)	(20%)	(17%)	(-12%)	(9%)	(-22%)	(-36%)	(-26%)	(-33%)	(-24%)	(-60%)	(-65%)	(-52%)	(-49%)
Interior Delta	S. Fork Moke. R. Term.	ALL	12	13	15	14	11	12	12	17	13	17	18	20	16	17	12	12	18	19	21	21	18	17	13	12	15	16
			(7%)	(7%)	(8%)	(7%)	(5%)	(6%)	(5%)	(7%)	(5%)	(7%)	(8%)	(9%)	(7%)	(8%)	(6%)	(7%)	(9%)	(10%)	(11%)	(11%)	(10%)	(9%)	(7%)	(7%)	(7%)	(8%)
		DROUGHT	12	13	14	13	12	13	9	13	3	8	14	19	8	12	12	14	23	24	23	23	17	17	14	15	13	15
			(7%)	(7%)	(7%)	(7%)	(6%)	(6%)	(4%)	(6%)	(1%)	(3%)	(6%)	(8%)	(4%)	(6%)	(6%)	(7%)	(12%)	(13%)	(12%)	(12%)	(9%)	(9%)	(7%)	(8%)	(6%)	(7%)
	SJR at San And. Landing	ALL	-204	-136	-322	-203	-312	-259	-135	-119	12	3	51	44	59	56	59	49	55	34	-5	22	-30	-2	-178	-207	-79	-60
			(-40%)	(-31%)	(-51%)	(-40%)	(-53%)	(-48%)	(-32%)	(-29%)	(4%)	(1%)	(22%)	(19%)	(25%)	(23%)	(24%)	(19%)	(22%)	(13%)	(-1%)	(6%)	(-7%)	(-0%)	(-34%)	(-38%)	(-20%)	(-16%)
		DROUGHT	-277	-250	-387	-310	-409	-362	-213	-171	8	-30	68	60	78	75	89	65	86	23	-53	-8	-32	12	-193	-323	-103	-102
			(-45%)	(-43%)	(-54%)	(-48%)	(-56%)	(-53%)	(-39%)	(-34%)	(2%)	(-8%)	(28%)	(24%)	(33%)	(31%)	(36%)	(24%)	(34%)	(7%)	(-10%)	(-2%)	(-6%)	(2%)	(-30%)	(-42%)	(-22%)	(-22%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-48	0	-83	-1	-10	0	-28	0	-11	0	-6	0	55	-1	37	-1	6	-1	-10	6	-11	0
			(1%)	(-0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-11%)	(-0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(-0%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(-0%)	(1%)	(-0%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-19	0	-5	-1	-10	-1	-10	-1	-6	-2	-9	-2	5	21	-19	1
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-1%)	(-0%)	(1%)	(3%)	(-3%)	(0%)
	SJR at Brandt Bridge	ALL	1	0	-33	0	-45	6	-83	-4	-14	0	-27	0	-10	-3	-6	-1	53	-1	33	11	9	7	-9	4	-11	1
			(0%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-2%)	(-1%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(2%)	(2%)	(1%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-7	0	-39	0	-48	8	-66	-2	-13	1	-18	-1	-3	-7	-9	-1	-9	-1	-20	40	-9	31	1	16	-20	7
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-0%)	(-1%)	(-2%)	(-0%)	(-1%)	(-0%)	(-3%)	(6%)	(-1%)	(5%)	(0%)	(3%)	(-3%)	(1%)
	Old River at Middle River	ALL	0	-1	-33	0	-48	0	-80	1	-13	0	-27	1	-8	1	-5	0	53	-1	38	2	9	0	-9	5	-10	0
			(0%)	(-0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-11%)	(0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(-0%)	(10%)	(-0%)	(7%)	(0%)	(2%)	(-0%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-8	-1	-39	0	-55	-1	-64	2	-13	0	-18	1	1	1	-9	0	-10	-1	-5	6	-8	0	2	17	-19	2
			(-1%)	(-0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(-0%)	(-1%)	(-0%)	(-1%)	(1%)	(-1%)	(0%)	(0%)	(3%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-4	3	-27	0	-57	-8	-69	11	-15	3	-24	3	-3	8	-5	1	65	18	47	16	-3	3	-18	2	-9	5
			(-1%)	(1%)	(-5%)	(0%)	(-8%)	(-1%)	(-9%)	(2%)	(-2%)	(0%)	(-4%)	(1%)	(-1%)	(2%)	(-1%)	(0%)	(13%)	(3%)	(8%)	(3%)	(-1%)	(0%)	(-3%)	(0%)	(-2%)	(1%)
		DROUGHT	-9	-1	-40	-2	-65	-10	-55	9	-17	1	-12	6	17	17	-6	2	23	52	14	47	-49	4	-28	7	-19	11
			(-1%)	(-0%)	(-6%)	(-0%)	(-8%)	(-1%)	(-6%)	(1%)	(-2%)	(0%)	(-1%)	(1%)	(3%)	(3%)	(-1%)	(0%)	(4%)	(9%)	(2%)	(8%)	(-7%)	(1%)	(-4%)	(1%)	(-3%)	(2%)
SJR	SJR at Prisoners Point	ALL	-124	-63	-208	-82	-226	-141	-58	-20	101	115	126	137	99	119	84	92	69	70	-34	10	-73	-10	-141	-125	-32	8
			(-25%)	(-14%)	(-35%)	(-17%)	(-37%)	(-26%)	(-11%)	(-4%)	(26%)	(31%)	(38%)	(42%)	(29%)	(38%)	(27%)	(30%)	(24%)	(24%)	(-8%)	(3%)	(-16%)	(-3%)	(-27%)	(-25%)	(-7%)	(2%)
		DROUGHT	-192	-164	-244	-150	-314	-224	-131	-55	116	119	175	193	165	187	156	154	111	69	-164	-101	-188	-84	-215	-252	-60	-26
			(-33%)	(-29%)	(-37%)	(-27%)	(-43%)	(-35%)	(-21%)	(-10%)	(28%)	(29%)	(45%)	(52%)	(46%)	(55%)	(51%)	(50%)	(41%)	(22%)	(-30%)	(-21%)	(-31%)	(-17%)	(-35%)	(-39%)	(-12%)	(-5%)
Export Area	Banks PP	ALL	-390	-349	-457	-337	-502	-408	-482	-430	-359	-350	-304	-297	-287	-278	-257	-254	-219	-239	-256	-236	-353	-280	-377	-339	-354	-317
			(-69%)	(-67%)	(-72%)	(-66%)	(-74%)	(-70%)	(-73%)	(-71%)	(-67%)	(-66%)	(-63%)	(-63%)	(-62%)	(-61%)	(-59%)	(-59%)	(-56%)	(-58%)	(-59%)	(-57%)	(-67%)	(-61%)	(-68%)	(-66%)	(-67%)	(-64%)
		DROUGHT	-475	-460	-532	-445	-634	-542	-600	-535	-481	-461	-467	-455	-453	-444	-373	-373	-247	-287	-355	-317	-546	-411	-470	-436	-469	-430
			(-73%)	(-72%)	(-75%)	(-72%)	(-78%)	(-76%)	(-77%)	(-75%)	(-73%)	(-72%)	(-73%)	(-72%)	(-72%)	(-72%)	(-68%)	(-68%)	(-58%)	(-62%)	(-67%)	(-64%)	(-76%)	(-70%)	(-73%)	(-71%)	(-73%)	(-71%)
	Jones PP	ALL	-382	-356	-448	-344	-525	-443	-530	-471	-444	-438	-417	-409	-305	-301	-264	-260	-219	-266	-286	-291	-352	-301	-375	-348	-379	-352
			(-68%)	(-67%)	(-72%)	(-66%)	(-75%)	(-72%)	(-75%)	(-73%)	(-72%)	(-71%)	(-70%)	(-70%)	(-63%)	(-63%)	(-60%)	(-60%)	(-56%)	(-60%)	(-62%)	(-62%)	(-67%)	(-63%)	(-68%)	(-66%)	(-68%)	(-67%)
		DROUGHT	-466	-476	-524	-443	-638	-565	-669	-589	-663	-649	-679	-671	-471	-475	-397	-391	-218	-258	-377	-345	-517	-406	-466	-449	-507	-476
			(-73%)	(-73%)	(-75%)	(-72%)	(-78%)	(-76%)	(-79%)	(-77%)	(-79%)	(-79%)	(-79%)	(-79%)	(-73%)	(-73%)	(-69%)	(-69%)	(-55%)	(-59%)	(-68%)	(-66%)	(-75%)	(-70%)	(-73%)	(-72%)	(-74%)	(-73%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-18. Period average change in EC levels for Alternative 7 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 7 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1235	-760	-1506	-1181	-849	-931	-320	-387	-135	-211	-20	-76	-4	-61	-116	-210	-363	-504	-204	-253	-320	-487	-859	-979	-494	-503
			(-57%)	(-45%)	(-72%)	(-67%)	(-68%)	(-70%)	(-52%)	(-57%)	(-33%)	(-44%)	(-7%)	(-23%)	(-1%)	(-18%)	(-24%)	(-37%)	(-45%)	(-53%)	(-21%)	(-25%)	(-24%)	(-32%)	(-40%)	(-43%)	(-46%)	(-47%)
		DROUGHT	-1642	-1115	-2035	-1758	-1250	-1440	-442	-662	-200	-421	-35	-101	-8	-77	-105	-344	-449	-843	-194	-400	-459	-792	-1063	-1740	-657	-808
			(-56%)	(-47%)	(-70%)	(-67%)	(-65%)	(-69%)	(-52%)	(-62%)	(-36%)	(-54%)	(-11%)	(-26%)	(-3%)	(-21%)	(-18%)	(-42%)	(-43%)	(-59%)	(-15%)	(-26%)	(-26%)	(-38%)	(-36%)	(-48%)	(-45%)	(-50%)
	Sac. R. at Emmaton	ALL	-684	-209	-1175	-850	-661	-743	-240	-307	-78	-154	20	-36	60	3	50	-44	-81	-222	294	246	387	220	-72	-191	-182	-191
			(-31%)	(-12%)	(-56%)	(-48%)	(-53%)	(-56%)	(-39%)	(-45%)	(-19%)	(-32%)	(7%)	(-11%)	(22%)	(1%)	(11%)	(-8%)	(-10%)	(-23%)	(31%)	(24%)	(29%)	(15%)	(-3%)	(-8%)	(-17%)	(-18%)
		DROUGHT	-870	-343	-1499	-1222	-849	-1039	-262	-481	-71	-292	28	-37	78	9	187	-51	-19	-413	581	374	382	48	119	-558	-183	-334
			(-30%)	(-14%)	(-52%)	(-46%)	(-44%)	(-49%)	(-31%)	(-45%)	(-13%)	(-38%)	(9%)	(-10%)	(26%)	(3%)	(32%)	(-6%)	(-2%)	(-29%)	(44%)	(24%)	(22%)	(2%)	(4%)	(-15%)	(-13%)	(-21%)
	SJR at Jersey Point	ALL	-1020	-332	-1672	-1029	-1270	-1036	-506	-491	-99	-136	40	6	65	38	5	-42	-132	-219	-247	-3	92	261	-405	-254	-429	-270
			(-52%)	(-26%)	(-76%)	(-66%)	(-76%)	(-72%)	(-59%)	(-58%)	(-22%)	(-28%)	(13%)	(2%)	(24%)	(13%)	(1%)	(-10%)	(-24%)	(-35%)	(-17%)	(-0%)	(6%)	(19%)	(-20%)	(-13%)	(-38%)	(-28%)
		DROUGHT	-1099	-487	-1874	-1344	-1643	-1305	-662	-680	-135	-265	61	20	88	56	30	-102	-161	-422	-512	-216	76	305	-129	-482	-497	-410
			(-48%)	(-29%)	(-73%)	(-66%)	(-75%)	(-70%)	(-60%)	(-61%)	(-25%)	(-39%)	(19%)	(6%)	(31%)	(18%)	(7%)	(-19%)	(-24%)	(-46%)	(-23%)	(-11%)	(4%)	(18%)	(-5%)	(-17%)	(-35%)	(-31%)
Interior Delta	S. Fork Moke. R. Term.	ALL	12	12	14	13	10	11	11	16	9	14	15	17	14	15	11	11	15	16	8	8	8	7	8	7	11	12
			(6%)	(7%)	(7%)	(7%)	(5%)	(6%)	(4%)	(7%)	(4%)	(6%)	(7%)	(8%)	(7%)	(7%)	(5%)	(6%)	(8%)	(8%)	(4%)	(4%)	(4%)	(4%)	(4%)	(4%)	(6%)	(6%)
		DROUGHT	12	12	12	12	11	12	8	12	2	7	13	18	8	11	10	12	20	21	12	12	8	7	8	9	10	12
			(6%)	(6%)	(6%)	(6%)	(5%)	(6%)	(3%)	(5%)	(1%)	(3%)	(5%)	(8%)	(4%)	(5%)	(5%)	(6%)	(10%)	(11%)	(6%)	(6%)	(4%)	(4%)	(4%)	(5%)	(5%)	(6%)
	SJR at San And. Landing	ALL	-14	54	-277	-158	-301	-248	-136	-120	4	-4	46	39	56	52	52	42	21	1	15	41	146	175	111	82	-23	-4
			(-3%)	(12%)	(-44%)	(-31%)	(-51%)	(-46%)	(-32%)	(-29%)	(1%)	(-1%)	(20%)	(16%)	(24%)	(22%)	(21%)	(17%)	(8%)	(0%)	(4%)	(11%)	(34%)	(44%)	(21%)	(15%)	(-6%)	(-1%)
		DROUGHT	-12	14	-307	-231	-381	-335	-206	-164	8	-30	65	57	74	72	80	56	37	-25	1	46	186	230	225	95	-19	-18
			(-2%)	(2%)	(-43%)	(-36%)	(-52%)	(-49%)	(-38%)	(-33%)	(2%)	(-8%)	(26%)	(22%)	(31%)	(30%)	(33%)	(21%)	(15%)	(-8%)	(0%)	(10%)	(34%)	(45%)	(35%)	(12%)	(-4%)	(-4%)
Southern Delta	SJR at Vernalis	ALL	5	1	-35	0	-48	0	-85	-2	-10	0	-28	0	-11	-1	-6	-1	55	-1	37	-1	9	2	-9	6	-11	0
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-11%)	(-0%)	(-1%)	(0%)	(-4%)	(-0%)	(-3%)	(-0%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(-0%)	(2%)	(0%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-1	5	-41	0	-53	0	-66	0	-9	0	-19	0	-5	-1	-10	0	-10	-1	-6	-2	2	9	5	21	-18	3
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(0%)	(1%)	(1%)	(3%)	(-2%)	(0%)
	SJR at Brandt Bridge	ALL	3	1	-32	0	-45	6	-84	-5	-14	0	-28	-1	-10	-4	-6	-1	53	-1	31	9	16	14	-8	5	-10	2
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-2%)	(-1%)	(-1%)	(-0%)	(10%)	(-0%)	(5%)	(1%)	(3%)	(3%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-3	4	-38	1	-48	8	-66	-2	-13	1	-18	-1	-3	-7	-9	-1	-9	-1	-6	54	9	48	4	19	-17	10
			(-0%)	(1%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-0%)	(-1%)	(-2%)	(-0%)	(-1%)	(-0%)	(-1%)	(9%)	(1%)	(8%)	(1%)	(3%)	(-2%)	(1%)
	Old River at Middle River	ALL	2	1	-33	0	-48	0	-81	0	-13	0	-27	0	-8	0	-6	-1	53	-1	38	2	11	1	-9	5	-10	1
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(-0%)	(-11%)	(-0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(-0%)	(10%)	(-0%)	(7%)	(0%)	(2%)	(0%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-3	4	-39	0	-54	-1	-64	2	-13	0	-17	1	2	2	-8	0	-10	-1	-5	7	0	8	3	18	-17	3
			(-1%)	(1%)	(-6%)	(0%)	(-6%)	(-0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(-0%)	(-1%)	(-0%)	(-1%)	(1%)	(-0%)	(1%)	(0%)	(3%)	(-2%)	(0%)
	Old River at Tracy Bridge	ALL	-3	4	-27	1	-57	-8	-72	8	-16	2	-25	3	-3	8	-5	0	65	17	38	7	-10	-4	-18	2	-11	3
			(-1%)	(1%)	(-5%)	(0%)	(-8%)	(-1%)	(-9%)	(1%)	(-2%)	(0%)	(-4%)	(0%)	(-1%)	(2%)	(-1%)	(0%)	(13%)	(3%)	(6%)	(1%)	(-2%)	(-1%)	(-3%)	(0%)	(-2%)	(1%)
		DROUGHT	-6	2	-39	-1	-65	-10	-55	9	-17	1	-12	6	17	17	-6	3	22	52	-6	27	-52	1	-25	10	-20	10
			(-1%)	(0%)	(-6%)	(-0%)	(-8%)	(-1%)	(-6%)	(1%)	(-2%)	(0%)	(-1%)	(1%)	(3%)	(3%)	(-1%)	(0%)	(4%)	(9%)	(-1%)	(4%)	(-7%)	(0%)	(-4%)	(2%)	(-3%)	(1%)
SJR	SJR at Prisoners Point	ALL	-44	18	-189	-63	-219	-134	-66	-27	89	103	120	131	97	117	81	89	55	55	-40	4	56	118	37	53	-2	39
			(-9%)	(4%)	(-32%)	(-13%)	(-35%)	(-25%)	(-13%)	(-6%)	(23%)	(28%)	(36%)	(40%)	(29%)	(37%)	(26%)	(30%)	(19%)	(19%)	(-10%)	(1%)	(12%)	(30%)	(7%)	(11%)	(-0%)	(10%)
		DROUGHT	-68	-40	-210	-116	-298	-208	-125	-50	117	120	172	190	164	185	155	152	92	50	-95	-32	68	172	90	53	5	40
			(-12%)	(-7%)	(-32%)	(-21%)	(-40%)	(-32%)	(-21%)	(-9%)	(28%)	(29%)	(44%)	(51%)	(46%)	(55%)	(50%)	(49%)	(34%)	(16%)	(-17%)	(-7%)	(11%)	(34%)	(15%)	(8%)	(1%)	(8%)
Export Area	Banks PP	ALL	-390	-350	-457	-337	-500	-406	-392	-341	-311	-302	-245	-238	-287	-278	-257	-254	-215	-235	-58	-38	-31	42	-89	-51	-249	-212
			(-69%)	(-67%)	(-72%)	(-66%)	(-74%)	(-70%)	(-59%)	(-56%)	(-58%)	(-57%)	(-51%)	(-50%)	(-62%)	(-61%)	(-59%)	(-59%)	(-54%)	(-57%)	(-13%)	(-9%)	(-6%)	(9%)	(-16%)	(-10%)	(-47%)	(-43%)
		DROUGHT	-510	-495	-567	-480	-634	-543	-600	-535	-517	-496	-495	-483	-559	-550	-514	-513	-388	-427	-154	-116	-42	94	21	56	-330	-291
			(-78%)	(-78%)	(-80%)	(-77%)	(-78%)	(-76%)	(-77%)	(-75%)	(-79%)	(-78%)	(-77%)	(-77%)	(-89%)	(-89%)	(-94%)	(-94%)	(-92%)	(-92%)	(-29%)	(-23%)	(-6%)	(16%)	(3%)	(9%)	(-51%)	(-48%)
	Jones PP	ALL	-382	-356	-448	-344	-516	-435	-453	-394	-394	-388	-392	-384	-305	-301	-264	-260	-219	-265	-9	-14	-8	43	-100	-72	-291	-264
			(-68%)	(-67%)	(-72%)	(-66%)	(-74%)	(-70%)	(-64%)	(-61%)	(-63%)	(-63%)	(-66%)	(-66%)	(-63%)	(-63%)	(-60%)	(-60%)	(-55%)	(-60%)	(-2%)	(-3%)	(-1%)	(9%)	(-18%)	(-14%)	(-52%)	(-50%)
		DROUGHT	-466	-476	-524	-443	-638	-565	-669	-589	-663	-650	-676	-668	-471	-475	-397	-391	-218	-258	-82	-50	-42	69	-14	4	-405	-374
			(-73%)	(-73%)	(-75%)	(-72%)	(-78%)	(-76%)	(-79%)	(-77%)	(-79%)	(-79%)	(-79%)	(-79%)	(-73%)	(-73%)	(-69%)	(-69%)	(-55%)	(-59%)	(-15%)	(-10%)	(-6%)	(12%)	(-2%)	(1%)	(-59%)	(-57%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-19. Period average change in EC levels for Alternative 8 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 8 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-1152	-677	-1439	-1115	-833	-915	-319	-385	-140	-217	-33	-89	-24	-81	-169	-263	-385	-526	-137	-186	-195	-361	-761	-881	-466	-475
			(-53%)	(-40%)	(-69%)	(-63%)	(-67%)	(-69%)	(-52%)	(-57%)	(-35%)	(-45%)	(-12%)	(-27%)	(-9%)	(-24%)	(-35%)	(-46%)	(-47%)	(-55%)	(-14%)	(-18%)	(-14%)	(-24%)	(-36%)	(-39%)	(-44%)	(-44%)
		DROUGHT	-1489	-962	-1915	-1638	-1222	-1412	-434	-654	-212	-433	-70	-136	-49	-117	-231	-470	-521	-915	-111	-318	-263	-596	-919	-1597	-620	-771
			(-51%)	(-40%)	(-66%)	(-62%)	(-64%)	(-67%)	(-51%)	(-61%)	(-38%)	(-56%)	(-22%)	(-35%)	(-17%)	(-32%)	(-39%)	(-57%)	(-50%)	(-64%)	(-8%)	(-21%)	(-15%)	(-29%)	(-31%)	(-44%)	(-43%)	(-48%)
	Sac. R. at Emmaton	ALL	-545	-70	-1066	-741	-635	-717	-240	-306	-89	-166	-6	-62	18	-39	-54	-148	-125	-266	436	388	617	450	83	-37	-134	-143
			(-25%)	(-4%)	(-51%)	(-42%)	(-51%)	(-54%)	(-39%)	(-45%)	(-22%)	(-34%)	(-2%)	(-19%)	(7%)	(-12%)	(-11%)	(-26%)	(-15%)	(-28%)	(45%)	(38%)	(46%)	(30%)	(4%)	(-2%)	(-13%)	(-13%)
		DROUGHT	-640	-113	-1322	-1045	-810	-1000	-255	-475	-101	-322	-42	-108	-9	-78	-54	-292	-155	-549	738	531	722	389	340	-337	-132	-283
			(-22%)	(-5%)	(-45%)	(-40%)	(-42%)	(-48%)	(-30%)	(-44%)	(-18%)	(-42%)	(-13%)	(-28%)	(-3%)	(-21%)	(-9%)	(-35%)	(-15%)	(-38%)	(55%)	(35%)	(42%)	(19%)	(12%)	(-9%)	(-9%)	(-18%)
	SJR at Jersey Point	ALL	-1000	-311	-1644	-1001	-1260	-1027	-505	-490	-103	-139	32	-2	53	25	-23	-70	-150	-237	-476	-232	33	202	-412	-261	-455	-295
			(-51%)	(-25%)	(-75%)	(-64%)	(-76%)	(-72%)	(-59%)	(-58%)	(-23%)	(-28%)	(11%)	(-1%)	(19%)	(8%)	(-6%)	(-17%)	(-27%)	(-37%)	(-33%)	(-20%)	(2%)	(15%)	(-20%)	(-14%)	(-40%)	(-30%)
		DROUGHT	-1034	-422	-1805	-1275	-1622	-1284	-655	-673	-138	-268	42	1	60	28	-38	-170	-221	-482	-752	-457	22	251	-149	-502	-524	-438
			(-45%)	(-25%)	(-70%)	(-62%)	(-74%)	(-69%)	(-60%)	(-60%)	(-25%)	(-40%)	(13%)	(0%)	(21%)	(9%)	(-10%)	(-32%)	(-33%)	(-52%)	(-34%)	(-24%)	(1%)	(15%)	(-6%)	(-18%)	(-37%)	(-33%)
Interior Delta	S. Fork Moke. R. Term.	ALL	12	13	13	12	10	11	9	14	8	12	12	14	11	12	9	10	15	16	14	14	10	9	9	8	11	12
			(6%)	(7%)	(7%)	(6%)	(5%)	(5%)	(4%)	(6%)	(3%)	(5%)	(6%)	(6%)	(5%)	(6%)	(5%)	(5%)	(8%)	(9%)	(7%)	(7%)	(6%)	(5%)	(5%)	(5%)	(5%)	(6%)
		DROUGHT	13	13	12	12	11	12	7	11	-1	4	6	11	4	8	7	9	20	21	16	16	10	10	10	11	10	11
			(7%)	(7%)	(6%)	(6%)	(5%)	(6%)	(3%)	(5%)	(-0%)	(2%)	(2%)	(5%)	(2%)	(4%)	(4%)	(5%)	(10%)	(11%)	(8%)	(8%)	(5%)	(5%)	(5%)	(6%)	(5%)	(6%)
	SJR at San And. Landing	ALL	-8	60	-273	-155	-298	-245	-138	-122	0	-9	38	31	44	41	40	30	17	-3	-38	-12	99	127	116	87	-33	-14
			(-2%)	(13%)	(-44%)	(-30%)	(-50%)	(-45%)	(-32%)	(-30%)	(-0%)	(-3%)	(16%)	(13%)	(19%)	(17%)	(16%)	(12%)	(7%)	(-1%)	(-10%)	(-3%)	(23%)	(32%)	(22%)	(16%)	(-8%)	(-4%)
		DROUGHT	6	33	-292	-216	-373	-327	-205	-163	2	-37	46	38	55	53	58	34	23	-39	-88	-43	136	180	228	98	-34	-33
			(1%)	(6%)	(-41%)	(-34%)	(-51%)	(-48%)	(-38%)	(-33%)	(0%)	(-10%)	(19%)	(15%)	(23%)	(22%)	(23%)	(13%)	(9%)	(-12%)	(-17%)	(-9%)	(25%)	(35%)	(36%)	(13%)	(-7%)	(-7%)
Southern Delta	SJR at Vernalis	ALL	4	0	-35	0	-43	5	-85	-2	-10	1	-28	0	-11	-1	-6	0	55	-1	37	-1	15	8	-9	6	-10	1
			(1%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-0%)	(-1%)	(0%)	(-4%)	(0%)	(-3%)	(-0%)	(-1%)	(-0%)	(11%)	(-0%)	(6%)	(-0%)	(3%)	(1%)	(-2%)	(1%)	(-2%)	(0%)
		DROUGHT	-6	0	-41	0	-52	0	-66	0	-9	0	-19	0	-4	0	-10	0	-10	-1	-6	-2	18	25	6	22	-17	4
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(3%)	(4%)	(1%)	(3%)	(-2%)	(1%)
	SJR at Brandt Bridge	ALL	2	0	-32	0	-40	10	-85	-6	-13	1	-27	-1	-10	-4	-6	-1	53	-1	38	16	18	16	-7	6	-9	3
			(0%)	(0%)	(-6%)	(0%)	(-5%)	(1%)	(-11%)	(-1%)	(-2%)	(0%)	(-4%)	(-0%)	(-2%)	(-1%)	(-1%)	(-0%)	(10%)	(-0%)	(6%)	(3%)	(3%)	(3%)	(-1%)	(1%)	(-2%)	(1%)
		DROUGHT	-7	0	-39	0	-48	8	-66	-2	-13	1	-18	-1	-2	-7	-9	-1	-9	-1	-6	54	12	52	7	22	-16	10
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(1%)	(-7%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-0%)	(-1%)	(-1%)	(-0%)	(-1%)	(-0%)	(-1%)	(9%)	(2%)	(9%)	(1%)	(3%)	(-2%)	(1%)
	Old River at Middle River	ALL	1	0	-33	0	-44	4	-82	-1	-13	1	-27	1	-8	0	-5	0	53	-1	38	2	15	6	-8	6	-9	1
			(0%)	(0%)	(-6%)	(0%)	(-6%)	(1%)	(-11%)	(-0%)	(-2%)	(0%)	(-4%)	(0%)	(-2%)	(0%)	(-1%)	(-0%)	(10%)	(-0%)	(7%)	(0%)	(3%)	(1%)	(-1%)	(1%)	(-2%)	(0%)
		DROUGHT	-8	-1	-39	0	-54	0	-64	2	-13	0	-17	1	2	2	-8	0	-10	-1	-6	6	12	20	5	20	-17	4
			(-1%)	(-0%)	(-6%)	(-0%)	(-6%)	(-0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(0%)	(0%)	(-1%)	(0%)	(-1%)	(-0%)	(-1%)	(1%)	(2%)	(3%)	(1%)	(3%)	(-2%)	(1%)
	Old River at Tracy Bridge	ALL	-4	3	-27	1	-53	-5	-72	7	-15	3	-24	3	-3	8	-5	1	66	18	39	8	-6	0	-16	4	-10	4
			(-1%)	(1%)	(-5%)	(0%)	(-7%)	(-1%)	(-9%)	(1%)	(-2%)	(0%)	(-4%)	(1%)	(-1%)	(2%)	(-1%)	(0%)	(13%)	(3%)	(7%)	(1%)	(-1%)	(-0%)	(-3%)	(1%)	(-2%)	(1%)
		DROUGHT	-9	-1	-40	-2	-65	-10	-56	9	-17	1	-12	6	17	18	-5	3	22	52	-5	28	-44	9	-20	15	-19	11
			(-2%)	(-0%)	(-6%)	(-0%)	(-8%)	(-1%)	(-6%)	(1%)	(-2%)	(0%)	(-1%)	(1%)	(3%)	(3%)	(-1%)	(0%)	(4%)	(9%)	(-1%)	(4%)	(-6%)	(1%)	(-3%)	(2%)	(-3%)	(1%)
SJR	SJR at Prisoners Point	ALL	-47	14	-190	-64	-219	-133	-65	-27	88	102	117	128	92	112	76	85	52	52	-74	-29	-16	46	19	35	-14	27
			(-9%)	(3%)	(-32%)	(-14%)	(-35%)	(-25%)	(-13%)	(-6%)	(23%)	(28%)	(35%)	(39%)	(28%)	(36%)	(24%)	(28%)	(18%)	(18%)	(-18%)	(-8%)	(-4%)	(12%)	(4%)	(7%)	(-3%)	(7%)
		DROUGHT	-66	-38	-207	-113	-295	-205	-124	-48	115	118	165	182	152	173	143	141	81	40	-191	-128	-36	68	59	22	-17	18
			(-11%)	(-7%)	(-32%)	(-20%)	(-40%)	(-32%)	(-20%)	(-9%)	(27%)	(28%)	(42%)	(49%)	(42%)	(51%)	(46%)	(45%)	(30%)	(13%)	(-34%)	(-26%)	(-6%)	(14%)	(10%)	(3%)	(-3%)	(4%)
Export Area	Banks PP	ALL	-390	-349	-457	-337	-498	-404	-421	-369	-313	-304	-260	-253	-287	-278	-257	-255	-216	-236	30	50	-56	16	-147	-108	-260	-223
			(-69%)	(-67%)	(-72%)	(-66%)	(-73%)	(-69%)	(-64%)	(-61%)	(-58%)	(-58%)	(-54%)	(-54%)	(-62%)	(-61%)	(-59%)	(-59%)	(-55%)	(-57%)	(7%)	(12%)	(-11%)	(4%)	(-27%)	(-21%)	(-49%)	(-45%)
		DROUGHT	-545	-530	-532	-445	-670	-578	-600	-536	-481	-461	-467	-455	-559	-550	-514	-513	-352	-392	98	136	-156	-21	-95	-60	-340	-301
			(-84%)	(-83%)	(-75%)	(-72%)	(-83%)	(-80%)	(-77%)	(-75%)	(-73%)	(-72%)	(-73%)	(-72%)	(-89%)	(-89%)	(-94%)	(-94%)	(-83%)	(-85%)	(18%)	(28%)	(-22%)	(-4%)	(-15%)	(-10%)	(-53%)	(-50%)
	Jones PP	ALL	-382	-356	-448	-344	-520	-438	-443	-384	-399	-393	-387	-379	-305	-301	-264	-260	-220	-266	-15	-20	-51	0	-124	-96	-296	-270
			(-68%)	(-67%)	(-72%)	(-66%)	(-74%)	(-71%)	(-63%)	(-59%)	(-64%)	(-64%)	(-65%)	(-65%)	(-63%)	(-63%)	(-60%)	(-60%)	(-56%)	(-60%)	(-3%)	(-4%)	(-10%)	(-0%)	(-22%)	(-18%)	(-53%)	(-51%)
		DROUGHT	-466	-476	-524	-443	-638	-565	-670	-589	-663	-650	-668	-659	-471	-475	-397	-391	-218	-258	-114	-83	-140	-30	-80	-62	-421	-390
			(-73%)	(-73%)	(-75%)	(-72%)	(-78%)	(-76%)	(-79%)	(-77%)	(-79%)	(-79%)	(-78%)	(-78%)	(-73%)	(-73%)	(-69%)	(-69%)	(-55%)	(-59%)	(-21%)	(-16%)	(-20%)	(-5%)	(-12%)	(-10%)	(-62%)	(-60%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-20. Period average change in EC levels for Alternative 9 LLT relative to existing conditions and the No Action Alternative LLT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 9 LLT	Location	Period [a]	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT	Ex. Cond.	No Act. LLT
Western Delta	Sac. R. at Emmaton/ Threemile Sl. Nr. Sac. R.	ALL	-560	-85	-432	-107	-4	-86	102	35	77	1	42	-14	38	-18	-13	-107	-147	-287	101	53	-119	-286	-633	-753	-129	-138
			(-26%)	(-5%)	(-21%)	(-6%)	(-0%)	(-6%)	(17%)	(5%)	(19%)	(0%)	(16%)	(-4%)	(14%)	(-6%)	(-3%)	(-19%)	(-18%)	(-30%)	(10%)	(5%)	(-9%)	(-19%)	(-30%)	(-33%)	(-12%)	(-13%)
		DROUGHT	-556	-29	-333	-56	100	-91	258	39	230	9	71	5	58	-10	131	-107	30	-364	401	194	-263	-597	-646	-1323	-43	-194
			(-19%)	(-1%)	(-11%)	(-2%)	(5%)	(-4%)	(30%)	(4%)	(42%)	(1%)	(22%)	(1%)	(20%)	(-3%)	(22%)	(-13%)	(3%)	(-25%)	(30%)	(13%)	(-15%)	(-29%)	(-22%)	(-37%)	(-3%)	(-12%)
	Sac. R. at Emmaton	ALL	104	579	234	559	467	386	345	279	220	143	110	54	110	53	132	38	138	-3	492	443	395	228	51	-68	233	224
			(5%)	(34%)	(11%)	(32%)	(37%)	(29%)	(56%)	(41%)	(54%)	(30%)	(41%)	(16%)	(40%)	(16%)	(28%)	(7%)	(17%)	(-0%)	(51%)	(44%)	(29%)	(15%)	(2%)	(-3%)	(22%)	(21%)
		DROUGHT	426	953	693	969	908	718	693	474	516	295	175	109	155	87	405	167	499	105	1031	824	393	59	430	-247	527	376
			(15%)	(40%)	(24%)	(37%)	(48%)	(34%)	(81%)	(44%)	(93%)	(38%)	(55%)	(28%)	(53%)	(24%)	(69%)	(20%)	(48%)	(7%)	(77%)	(54%)	(23%)	(3%)	(15%)	(-7%)	(36%)	(24%)
	SJR at Jersey Point	ALL	-790	-102	-826	-183	-575	-342	-161	-146	54	18	91	57	81	53	28	-19	-7	-94	-650	-405	-747	-579	-989	-837	-374	-215
			(-41%)	(-8%)	(-37%)	(-12%)	(-34%)	(-24%)	(-19%)	(-17%)	(12%)	(4%)	(30%)	(17%)	(30%)	(18%)	(8%)	(-5%)	(-1%)	(-15%)	(-46%)	(-34%)	(-49%)	(-43%)	(-48%)	(-44%)	(-33%)	(-22%)
		DROUGHT	-615	-2	-483	46	-320	18	-17	-35	191	61	174	133	126	94	114	-18	106	-155	-951	-656	-900	-671	-840	-1193	-285	-198
			(-27%)	(-0%)	(-19%)	(2%)	(-15%)	(1%)	(-2%)	(-3%)	(35%)	(9%)	(54%)	(37%)	(45%)	(30%)	(28%)	(-3%)	(16%)	(-17%)	(-43%)	(-35%)	(-47%)	(-40%)	(-35%)	(-43%)	(-20%)	(-15%)
Interior Delta	S. Fork Moke. R. Term.	ALL	2	3	2	2	0	1	-10	-5	-13	-8	-4	-2	-5	-4	-1	0	2	3	2	2	3	2	3	2	-2	0
			(1%)	(1%)	(1%)	(1%)	(-0%)	(0%)	(-4%)	(-2%)	(-5%)	(-3%)	(-2%)	(-1%)	(-3%)	(-2%)	(-0%)	(0%)	(1%)	(2%)	(1%)	(1%)	(2%)	(1%)	(2%)	(1%)	(-1%)	(-0%)
		DROUGHT	3	3	2	2	3	4	-15	-11	-28	-23	-18	-12	-12	-9	-4	-2	2	3	3	3	4	4	3	4	-5	-3
			(2%)	(2%)	(1%)	(1%)	(1%)	(2%)	(-6%)	(-5%)	(-11%)	(-9%)	(-7%)	(-5%)	(-6%)	(-4%)	(-2%)	(-1%)	(1%)	(2%)	(2%)	(2%)	(2%)	(2%)	(2%)	(2%)	(-2%)	(-1%)
	SJR at San And. Landing	ALL	173	241	139	258	66	118	29	45	79	71	35	28	12	9	31	21	64	43	19	45	21	49	73	44	62	81
			(34%)	(54%)	(22%)	(51%)	(11%)	(22%)	(7%)	(11%)	(27%)	(24%)	(15%)	(12%)	(5%)	(4%)	(13%)	(8%)	(25%)	(16%)	(5%)	(13%)	(5%)	(12%)	(14%)	(8%)	(16%)	(22%)
		DROUGHT	309	335	404	481	320	366	148	190	192	154	50	41	13	10	80	57	140	77	38	83	-15	29	183	53	155	156
			(51%)	(57%)	(56%)	(75%)	(44%)	(53%)	(27%)	(38%)	(58%)	(42%)	(20%)	(16%)	(5%)	(4%)	(33%)	(21%)	(55%)	(24%)	(7%)	(17%)	(-3%)	(6%)	(29%)	(7%)	(33%)	(33%)
Southern Delta	SJR at Vernalis	ALL	3	0	-35	0	-43	5	-87	-5	-11	0	-28	0	-11	0	-6	0	56	0	38	0	7	0	-17	-2	-11	0
			(1%)	(0%)	(-6%)	(-0%)	(-6%)	(1%)	(-12%)	(-1%)	(-2%)	(-0%)	(-4%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(11%)	(-0%)	(7%)	(-0%)	(1%)	(-0%)	(-3%)	(-0%)	(-2%)	(-0%)
		DROUGHT	-6	0	-41	0	-53	0	-66	0	-9	0	-20	0	-5	-1	-10	-1	-9	0	-5	0	-7	0	-20	-5	-21	-1
			(-1%)	(-0%)	(-6%)	(0%)	(-6%)	(0%)	(-7%)	(0%)	(-1%)	(0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-2%)	(-0%)	(-1%)	(-0%)	(-1%)	(-0%)	(-1%)	(-0%)	(-3%)	(-1%)	(-3%)	(-0%)
	SJR at Brandt Bridge	ALL	-147	-148	-191	-158	-347	-296	-293	-214	-238	-223	-255	-228	-74	-67	-72	-67	-159	-213	-207	-230	-154	-156	-145	-132	-190	-178
			(-28%)	(-29%)	(-33%)	(-29%)	(-46%)	(-42%)	(-39%)	(-32%)	(-35%)	(-33%)	(-38%)	(-36%)	(-16%)	(-15%)	(-17%)	(-16%)	(-30%)	(-36%)	(-35%)	(-38%)	(-28%)	(-29%)	(-27%)	(-25%)	(-32%)	(-31%)
		DROUGHT	-179	-172	-208	-169	-350	-293	-346	-282	-381	-367	-388	-371	-99	-104	-123	-115	-211	-204	-233	-173	-189	-149	-182	-167	-241	-214
			(-30%)	(-29%)	(-31%)	(-27%)	(-41%)	(-37%)	(-38%)	(-34%)	(-40%)	(-39%)	(-41%)	(-40%)	(-16%)	(-17%)	(-21%)	(-20%)	(-32%)	(-32%)	(-35%)	(-28%)	(-29%)	(-25%)	(-29%)	(-27%)	(-33%)	(-31%)
	Old River at Middle River	ALL	-20	-21	-46	-13	-87	-39	-114	-33	-55	-41	-79	-52	-26	-17	-21	-15	3	-51	-12	-49	-28	-37	-41	-27	-44	-33
			(-4%)	(-4%)	(-8%)	(-2%)	(-11%)	(-5%)	(-15%)	(-5%)	(-8%)	(-6%)	(-12%)	(-8%)	(-6%)	(-4%)	(-5%)	(-4%)	(1%)	(-9%)	(-2%)	(-8%)	(-5%)	(-7%)	(-8%)	(-5%)	(-7%)	(-6%)
		DROUGHT	-27	-20	-45	-6	-85	-31	-102	-37	-83	-70	-109	-91	-36	-36	-40	-31	-81	-73	-73	-62	-57	-49	-53	-38	-66	-45
			(-4%)	(-3%)	(-7%)	(-1%)	(-10%)	(-4%)	(-11%)	(-4%)	(-9%)	(-7%)	(-12%)	(-10%)	(-6%)	(-6%)	(-7%)	(-5%)	(-12%)	(-11%)	(-11%)	(-10%)	(-9%)	(-8%)	(-8%)	(-6%)	(-9%)	(-6%)
	Old River at Tracy Bridge	ALL	-24	-17	-43	-15	-86	-38	-123	-43	-65	-47	-81	-53	-38	-28	-24	-19	19	-28	-11	-42	-50	-44	-50	-29	-48	-34
			(-5%)	(-3%)	(-7%)	(-3%)	(-11%)	(-5%)	(-16%)	(-6%)	(-9%)	(-7%)	(-12%)	(-8%)	(-8%)	(-6%)	(-6%)	(-4%)	(4%)	(-5%)	(-2%)	(-7%)	(-9%)	(-8%)	(-9%)	(-6%)	(-8%)	(-6%)
		DROUGHT	-28	-20	-49	-12	-82	-27	-109	-44	-89	-71	-108	-90	-54	-54	-43	-35	-45	-15	-70	-36	-109	-56	-78	-43	-72	-42
			(-5%)	(-3%)	(-7%)	(-2%)	(-10%)	(-3%)	(-12%)	(-5%)	(-9%)	(-8%)	(-11%)	(-10%)	(-8%)	(-8%)	(-7%)	(-6%)	(-7%)	(-3%)	(-10%)	(-6%)	(-16%)	(-9%)	(-12%)	(-7%)	(-10%)	(-6%)
SJR	SJR at Prisoners Point	ALL	128	190	138	264	46	131	-35	3	-3	12	-25	-14	-85	-65	-49	-41	-3	-2	-13	31	-34	28	33	50	8	49
			(25%)	(43%)	(23%)	(56%)	(7%)	(25%)	(-7%)	(1%)	(-1%)	(3%)	(-7%)	(-4%)	(-25%)	(-20%)	(-16%)	(-14%)	(-1%)	(-1%)	(-3%)	(8%)	(-8%)	(7%)	(6%)	(10%)	(2%)	(12%)
		DROUGHT	241	269	396	490	295	385	85	161	81	84	-29	-11	-113	-92	-20	-23	78	36	-11	52	-125	-21	105	67	82	116
			(41%)	(48%)	(60%)	(87%)	(40%)	(59%)	(14%)	(30%)	(19%)	(20%)	(-7%)	(-3%)	(-32%)	(-27%)	(-7%)	(-7%)	(29%)	(12%)	(-2%)	(11%)	(-21%)	(-4%)	(17%)	(10%)	(16%)	(25%)
Export Area	Banks PP	ALL	-345	-305	-421	-301	-460	-366	-435	-383	-295	-286	-228	-221	-232	-223	-207	-204	-165	-184	-195	-175	-291	-218	-315	-277	-299	-262
			(-61%)	(-58%)	(-66%)	(-59%)	(-68%)	(-63%)	(-66%)	(-63%)	(-55%)	(-54%)	(-47%)	(-47%)	(-50%)	(-49%)	(-48%)	(-47%)	(-42%)	(-44%)	(-45%)	(-43%)	(-55%)	(-48%)	(-57%)	(-54%)	(-56%)	(-53%)
		DROUGHT	-408	-393	-465	-378	-568	-476	-535	-471	-416	-395	-401	-389	-387	-378	-306	-306	-180	-220	-288	-250	-479	-344	-403	-369	-403	-364
			(-63%)	(-62%)	(-66%)	(-61%)	(-70%)	(-66%)	(-69%)	(-66%)	(-63%)	(-62%)	(-62%)	(-62%)	(-61%)	(-61%)	(-56%)	(-56%)	(-43%)	(-48%)	(-54%)	(-51%)	(-66%)	(-59%)	(-62%)	(-60%)	(-62%)	(-60%)
	Jones PP	ALL	-44	-19	1	104	-76	5	-160	-101	-176	-170	-198	-191	-173	-169	-164	-160	-114	-160	-127	-132	-116	-65	-97	-69	-120	-94
			(-8%)	(-4%)	(0%)	(20%)	(-11%)	(1%)	(-23%)	(-16%)	(-28%)	(-28%)	(-33%)	(-33%)	(-36%)	(-35%)	(-37%)	(-37%)	(-29%)	(-36%)	(-28%)	(-28%)	(-22%)	(-14%)	(-18%)	(-13%)	(-22%)	(-18%)
		DROUGHT	5	-5	157	237	113	187	-73	8	-267	-253	-355	-347	-280	-284	-288	-282	-85	-125	-93	-61	-187	-76	-137	-120	-124	-93
			(1%)	(-1%)	(22%)	(38%)	(14%)	(25%)	(-9%)	(1%)	(-32%)	(-31%)	(-41%)	(-41%)	(-43%)	(-44%)	(-50%)	(-50%)	(-22%)	(-29%)	(-17%)	(-12%)	(-27%)	(-13%)	(-21%)	(-19%)	(-18%)	(-14%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-21: Period Average EC levels (mS/cm) for the Sacramento River at Collinsville.

	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
JAN	2.7	2.7	2.7	2.0	2.5	2.1	2.2	2.0	2.4	2.6	1.3	1.3	1.3	3.1
FEB	1.7	1.9	1.7	1.5	1.6	1.5	1.5	1.6	1.7	1.7	1.1	1.0	1.0	2.0
MAR	0.9	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.3	0.9	0.9	0.7	1.2
APR	1.0	1.3	1.5	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.2	1.2	0.9	1.3
MAY	1.9	2.2	2.7	2.5	2.8	2.5	2.3	2.5	2.3	2.5	2.2	2.1	1.6	2.2
JUN	3.2	3.6	4.1	4.0	4.1	4.0	3.9	4.0	3.9	4.1	3.7	3.0	2.8	3.5
JUL	4.5	4.2	5.3	5.3	5.3	5.3	5.4	5.3	5.4	5.2	5.5	5.1	5.2	5.3
AUG	5.6	5.6	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	5.7	6.6	7.0	6.2
SEP	7.3	6.6	8.4	6.4	8.4	8.2	8.3	6.3	6.3	6.4	4.6	6.4	6.6	6.5
OCT	7.7	5.8	6.1	4.4	5.9	6.0	6.0	4.6	4.4	5.1	3.6	4.7	4.9	6.3
NOV	7.4	5.8	6.0	4.8	5.8	6.0	6.0	4.9	4.7	5.0	3.2	3.3	3.6	6.4
DEC	5.2	4.9	5.1	4.2	5.1	4.8	5.0	4.1	4.2	4.5	2.2	2.2	2.3	5.4

Table EC-22: Period Average EC levels (mS/cm) for Montezuma Slough at National Steele, Suisun Marsh.

	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
JAN	2.7	2.9	2.2	1.7	2.1	1.8	1.9	1.6	1.9	2.1	0.9	1.0	1.0	2.9
FEB	1.7	2.0	1.4	1.0	1.2	1.1	1.1	1.1	1.3	1.3	0.7	0.8	0.7	1.8
MAR	1.3	1.7	1.0	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.6	0.6	0.5	1.0
APR	1.6	2.0	1.0	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.7	0.7	0.6	0.9
MAY	2.7	3.2	1.6	1.4	1.5	1.4	1.3	1.4	1.3	1.4	1.2	1.1	0.9	1.3
JUN	4.2	4.9	2.4	2.3	2.4	2.3	2.2	2.3	2.2	2.4	2.1	1.6	1.5	2.0
JUL	6.3	6.4	3.4	3.3	3.3	3.3	3.4	3.4	3.4	3.3	3.5	2.9	2.9	3.3
AUG	7.8	7.8	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	4.1	4.4	4.0
SEP	9.8	9.2	5.9	4.8	5.9	5.9	5.9	4.8	4.7	4.8	3.4	4.6	4.9	4.7
OCT	7.2	5.7	4.7	3.4	4.7	4.9	4.8	3.5	3.4	3.9	2.5	3.7	3.9	4.8
NOV	7.1	5.8	4.4	3.4	4.3	4.4	4.3	3.5	3.4	3.8	2.2	2.5	2.7	5.1
DEC	4.9	4.8	3.6	2.9	3.7	3.6	3.8	2.9	3.0	3.2	1.6	1.6	1.7	4.3

Table EC-23: Period Average EC levels (mS/cm) for Montezuma Slough near Beldon Landing, Suisun Marsh.

	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
JAN	3.3	3.4	8.8	7.6	8.7	8.1	8.3	7.5	7.9	8.3	5.4	5.5	5.4	9.2
FEB	2.1	2.3	6.1	5.3	5.9	5.4	5.5	5.3	5.7	5.8	4.0	4.0	3.9	6.5
MAR	2.5	3.0	4.9	4.6	4.8	4.6	4.6	4.6	4.7	4.8	3.4	3.4	3.0	5.0
APR	2.9	3.5	4.7	4.5	4.6	4.5	4.3	4.5	4.4	4.5	3.7	3.6	3.1	4.5
MAY	4.3	5.0	6.3	5.9	6.3	5.9	5.6	5.9	5.6	5.9	5.3	5.2	4.4	5.8
JUN	6.2	7.1	8.2	7.8	8.2	7.8	7.5	7.8	7.5	7.9	7.4	6.9	6.3	7.5
JUL	9.0	9.3	10.2	9.9	10.2	10.0	9.9	10.0	9.9	10.0	9.8	9.2	9.0	10.0
AUG	11.0	10.7	12.0	11.9	12.0	11.9	12.0	11.9	11.9	11.8	11.3	11.7	11.8	11.9
SEP	13.1	12.6	14.0	12.8	14.0	13.8	13.9	12.7	12.7	12.7	11.3	12.6	12.8	12.9
OCT	7.8	6.4	13.7	10.9	13.6	13.6	13.6	11.0	10.9	11.3	9.8	11.1	11.3	12.1
NOV	7.6	6.2	12.4	10.5	12.2	12.4	12.3	10.6	10.4	11.0	9.1	9.8	10.1	12.5
DEC	5.1	4.9	11.3	9.7	11.2	11.2	11.2	9.7	9.7	10.0	7.4	7.6	7.8	11.4

Table EC-24: Period Average EC levels (mS/cm) for Chadbourne Slough near Sunrise Duck Club, Suisun Marsh.

	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
JAN	7.1	6.9	10.3	9.1	10.2	9.5	9.7	8.9	9.3	9.8	6.7	6.8	6.7	10.5
FEB	4.8	4.9	7.5	6.6	7.3	6.8	6.9	6.6	7.0	7.2	5.2	5.2	5.0	7.7
MAR	3.8	4.3	6.1	5.7	5.9	5.7	5.7	5.7	5.8	5.9	4.5	4.4	4.0	5.9
APR	3.6	4.2	5.9	5.7	5.8	5.7	5.4	5.7	5.5	5.7	4.8	4.7	4.1	5.5
MAY	4.9	5.6	7.8	7.3	7.8	7.3	6.9	7.3	6.9	7.3	6.7	6.5	5.6	7.0
JUN	7.0	7.8	9.9	9.5	10.0	9.5	9.2	9.5	9.2	9.6	9.1	8.5	7.9	9.1
JUL	9.7	10.0	12.1	11.9	12.1	11.9	11.9	11.9	11.9	12.0	11.7	11.2	11.0	11.7
AUG	11.7	11.5	14.2	14.0	14.1	14.0	14.1	14.1	14.1	14.0	13.3	13.8	13.9	13.8
SEP	13.7	13.3	16.1	14.8	16.1	15.9	16.0	14.7	14.7	14.7	13.2	14.6	14.7	14.6
OCT	12.3	10.9	15.5	12.8	15.5	15.5	15.5	12.9	12.8	13.2	11.6	12.9	13.1	13.8
NOV	11.2	9.4	14.0	12.1	13.9	14.1	14.0	12.3	12.0	12.7	10.6	11.3	11.6	13.8
DEC	9.4	8.4	12.9	11.3	12.9	12.8	12.8	11.3	11.3	11.7	8.8	9.1	9.2	12.8

Table EC-25: Period Average EC levels (mS/cm) for Suisun Slough 300 feet south of Volanti Slough, Suisun Marsh.

	Ex. Cond.	No Act. LLT	Alt 1 LLT	Alt 2 LLT	Alt 3 LLT	Alt 4 LLT H1	Alt 4 LLT H2	Alt 4 LLT H3	Alt 4 LLT H4	Alt 5 LLT	Alt 6 LLT	Alt 7 LLT	Alt 8 LLT	Alt 9 LLT
JAN	6.4	6.3	9.6	8.5	9.6	8.8	9.0	8.3	8.8	9.2	6.1	6.2	6.1	10.0
FEB	4.4	4.5	6.8	6.0	6.6	6.1	6.3	6.0	6.5	6.6	4.7	4.7	4.5	7.1
MAR	3.7	4.1	5.6	5.3	5.4	5.3	5.2	5.3	5.4	5.5	4.1	4.0	3.6	5.4
APR	3.5	4.2	5.5	5.3	5.4	5.3	5.0	5.3	5.1	5.3	4.5	4.4	3.7	5.1
MAY	4.8	5.4	7.4	7.0	7.5	7.0	6.6	7.0	6.6	7.0	6.4	6.2	5.4	6.7
JUN	6.7	7.5	9.6	9.2	9.7	9.2	8.9	9.2	8.9	9.3	8.8	8.2	7.6	8.8
JUL	9.4	9.7	11.8	11.7	11.8	11.7	11.7	11.7	11.6	11.7	11.5	10.9	10.8	11.5
AUG	11.5	11.2	13.9	13.8	13.9	13.8	13.9	13.9	13.9	13.8	13.1	13.6	13.8	13.6
SEP	13.6	13.1	15.9	14.5	15.9	15.8	15.8	14.5	14.5	14.4	12.9	14.3	14.5	14.4
OCT	11.5	10.3	15.2	12.3	15.1	15.2	15.2	12.4	12.3	12.7	11.1	12.4	12.6	13.5
NOV	10.3	8.6	13.6	11.7	13.4	13.6	13.5	11.8	11.6	12.2	10.2	10.8	11.1	13.5
DEC	8.4	7.6	12.4	10.8	12.4	12.3	12.3	10.8	10.8	11.2	8.3	8.5	8.6	12.4

Table EC-26. Number of days Delta locations exceed Bay-Delta Water Quality Control Plan objectives, and number of days out of compliance, for existing conditions, the No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A.

Location [a]	# of Days Objective Applicable	# of Days Objective Exceeded [b]					% of Days Objective Exceeded [b]					# of Days Out of Compliance [c]					% of Days Out of Compliance [c]				
		Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
Sacramento River at Emmaton	2,176	120	270	350	150	212	6	12	16	7	10	233	448	595	330	433	11	21	27	15	20
San Joaquin River at Jersey Point	2,176	415	418	223	275	307	19	19	10	13	14	623	600	379	444	487	29	28	17	20	22
S. Fork Mokelumne River at Terminous	2,176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River at San Andreas Landing	2,176	14	4	0	27	22	1	0	0	1	1	27	19	0	53	35	1	1	0	2	2
San Joaquin River at Vernalis	5,842	163	146	146	146	146	3	2	2	2	2	424	407	407	407	407	7	7	7	7	7
San Joaquin River at Brandt Bridge	5,842	188	174	170	170	174	3	3	3	3	3	449	435	431	431	435	8	7	7	7	7
Old River near Middle River	5,842	183	169	172	173	169	3	3	3	3	3	444	430	433	434	430	8	7	7	7	7
Old River at Tracy Bridge	5,842	250	220	225	224	204	4	4	4	4	3	569	510	486	485	494	10	9	8	8	8
San Joaquin River at Jersey Point (F&W)	671	0	19	0	0	18	0	3	0	0	2	0	19	0	0	18	0	3	0	0	2
San Joaquin River at Prisoners Point (F&W)	671	38	11	87	89	29	6	2	12	12	4	64	11	95	97	42	10	2	13	13	6

Notes:

[a] (AGR) = for the protection of agricultural beneficial uses; (F&W) = for the protection of fish and wildlife beneficial uses.

[b] Number of days the Bay-Delta Water Quality Control Plan EC objective was exceeded at the location.

[c] Number of days the EC at the location was out of compliance with the Bay-Delta Water Quality Control Plan EC objective. Days out of compliance was determined according to Table 2, footnote 2, which states: "Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance."

Table EC-27: Period average EC levels at Bay-Delta Water Quality Control Plan compliance locations and frequency of exceedance of Bay-Delta Water Quality Control Plan objectives for Banks and Jones pumping plants for existing conditions, the No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A.

Electrical Conductivity Alt 4A/2D/5A	Location	Period [a]	Period Average Concentration (µmohs/cm)					Other Relevant Threshold (1000 µmohs/cm) [b] Frequency of Criterion/Objective Exceedance (%)				
			Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
Western Delta	Sac. R. at Emmaton	ALL	1,069	1,074	1,064	963	1,071	-	-	-	-	-
		DROUGHT	1,449	1,590	1,572	1,444	1,580	-	-	-	-	-
	SJR at Jersey Point	ALL	1,135	1,038	846	796	947	-	-	-	-	-
		DROUGHT	1,410	1,412	1,231	1,124	1,278	-	-	-	-	-
Interior Delta	S. Fork Moke. R. Term.	ALL	203	203	206	207	204	-	-	-	-	-
		DROUGHT	209	208	210	211	209	-	-	-	-	-
	SJR at San And. Landing	ALL	395	388	346	337	368	-	-	-	-	-
		DROUGHT	470	491	443	414	454	-	-	-	-	-
Southern Delta	SJR at Vernalis	ALL	581	559	559	559	559	-	-	-	-	-
		DROUGHT	718	691	691	691	692	-	-	-	-	-
	SJR at Brandt Bridge	ALL	586	565	564	564	565	-	-	-	-	-
		DROUGHT	726	698	698	698	699	-	-	-	-	-
	Old River at Middle River	ALL	586	566	567	567	566	-	-	-	-	-
		DROUGHT	726	700	701	701	700	-	-	-	-	-
	Old River at Tracy Bridge	ALL	597	573	577	576	570	-	-	-	-	-
		DROUGHT	737	703	698	696	694	-	-	-	-	-
SJR	SJR at Prisoners Point	ALL	440	418	393	387	400	-	-	-	-	-
		DROUGHT	508	507	476	449	467	-	-	-	-	-
Export Area	Banks PP	ALL	530	505	395	375	427	1	3	1	0	1
		DROUGHT	646	632	518	473	536	2	3	2	0	2
	Jones PP	ALL	555	531	409	398	464	0	1	0	0	1
		DROUGHT	683	664	523	501	566	0	0	0	0	0

Notes:

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

[b] A 1,000 µmhos/cm objective, as a monthly average of mean daily EC, applies to the Banks and Jones pumping plants year-round. Compliance with EC objectives for other locations in the table is assessed on a different time-step and, thus, is summarized in a separate table in this Appendix.

Table EC-28. Period average change in EC levels for the No Action Alternative ELT relative to existing conditions.

Electrical Conductivity			OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Avg. Change
No Act. ELT	Location	Period [a]	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.	Ex. Cond.
Western Delta	Sac. R. at Emmaton	ALL	-67	-154	10	-6	-2	29	20	4	45	75	194	-82	5
			(-3%)	(-7%)	(1%)	(-1%)	(-1%)	(11%)	(7%)	(1%)	(5%)	(8%)	(14%)	(-4%)	(1%)
		DROUGHT	36	-23	167	87	50	57	28	101	148	139	449	459	141
			(1%)	(-1%)	(9%)	(10%)	(9%)	(18%)	(10%)	(17%)	(14%)	(10%)	(26%)	(16%)	(10%)
	SJR at Jersey Point	ALL	-318	-347	-146	-35	-9	16	9	0	24	-108	-40	-207	-97
			(-16%)	(-16%)	(-9%)	(-4%)	(-2%)	(5%)	(3%)	(-0%)	(4%)	(-8%)	(-3%)	(-10%)	(-9%)
		DROUGHT	56	-136	-8	56	35	37	11	49	102	-169	-172	158	2
			(2%)	(-5%)	(-0%)	(5%)	(6%)	(12%)	(4%)	(12%)	(15%)	(-8%)	(-9%)	(7%)	(0%)
Interior Delta	S. Fork Moke. R. Term.	ALL	0	0	-1	1	-1	1	1	0	0	0	1	1	0
			(0%)	(0%)	(-0%)	(0%)	(-0%)	(1%)	(0%)	(-0%)	(-0%)	(-0%)	(1%)	(0%)	(0%)
		DROUGHT	0	0	-1	0	-3	-2	-1	-1	-1	0	3	1	0
			(0%)	(0%)	(-1%)	(0%)	(-1%)	(-1%)	(-1%)	(-0%)	(-0%)	(0%)	(1%)	(0%)	(-0%)
	SJR at San And. Landing	ALL	-5	-32	-28	1	-5	1	-1	-2	3	-22	1	0	-7
			(-1%)	(-5%)	(-5%)	(0%)	(-2%)	(1%)	(-0%)	(-1%)	(1%)	(-6%)	(0%)	(0%)	(-2%)
		DROUGHT	70	63	29	35	11	2	-2	6	21	-40	-7	66	21
			(11%)	(9%)	(4%)	(6%)	(3%)	(1%)	(-1%)	(3%)	(8%)	(-8%)	(-1%)	(10%)	(5%)
Southern Delta	SJR at Vernalis	ALL	-13	-39	-44	-65	-26	-28	-19	-19	15	12	-10	-20	-21
			(-2%)	(-7%)	(-6%)	(-9%)	(-4%)	(-4%)	(-4%)	(-4%)	(3%)	(2%)	(-2%)	(-4%)	(-4%)
		DROUGHT	-35	-46	-55	-78	-9	-20	-18	-16	-7	-7	-9	-22	-27
			(-6%)	(-7%)	(-6%)	(-9%)	(-1%)	(-2%)	(-3%)	(-3%)	(-1%)	(-1%)	(-1%)	(-4%)	(-4%)
	SJR at Brandt Bridge	ALL	-13	-37	-45	-63	-29	-27	-18	-18	15	6	-9	-19	-21
			(-3%)	(-6%)	(-6%)	(-8%)	(-4%)	(-4%)	(-4%)	(-4%)	(3%)	(1%)	(-2%)	(-3%)	(-4%)
		DROUGHT	-34	-46	-56	-75	-15	-18	-14	-15	-7	-25	-14	-20	-28
			(-6%)	(-7%)	(-7%)	(-8%)	(-2%)	(-2%)	(-2%)	(-3%)	(-1%)	(-4%)	(-2%)	(-3%)	(-4%)
	Old River at Middle River	ALL	-14	-37	-44	-64	-28	-28	-18	-18	14	12	-8	-19	-21
			(-3%)	(-6%)	(-6%)	(-8%)	(-4%)	(-4%)	(-4%)	(-4%)	(3%)	(2%)	(-1%)	(-4%)	(-4%)
		DROUGHT	-34	-45	-55	-76	-13	-19	-15	-15	-7	-5	-8	-21	-26
			(-6%)	(-7%)	(-6%)	(-8%)	(-1%)	(-2%)	(-3%)	(-3%)	(-1%)	(-1%)	(-1%)	(-3%)	(-4%)
	Old River at Tracy Bridge	ALL	-20	-32	-43	-60	-31	-27	-19	-18	0	4	-14	-17	-23
			(-4%)	(-6%)	(-6%)	(-8%)	(-4%)	(-4%)	(-4%)	(-4%)	(-0%)	(1%)	(-2%)	(-3%)	(-4%)
		DROUGHT	-32	-49	-54	-72	-18	-18	-15	-15	-47	-30	-37	-19	-34
			(-5%)	(-7%)	(-6%)	(-8%)	(-2%)	(-2%)	(-2%)	(-2%)	(-7%)	(-5%)	(-5%)	(-3%)	(-5%)
SJR	SJR at Prisoners Point	ALL	-22	-33	-49	-9	-19	-18	-18	-15	-8	-34	-26	-10	-22
			(-4%)	(-6%)	(-8%)	(-2%)	(-5%)	(-5%)	(-5%)	(-5%)	(-3%)	(-8%)	(-6%)	(-2%)	(-5%)
		DROUGHT	43	62	-5	31	-7	-32	-23	-6	11	-51	-63	19	-2
			(7%)	(9%)	(-1%)	(5%)	(-2%)	(-8%)	(-6%)	(-2%)	(4%)	(-9%)	(-10%)	(3%)	(-0%)
Export Area	Banks PP	ALL	-32	-40	-59	-18	-8	-19	-19	-20	-6	-21	-42	-11	-25
			(-6%)	(-6%)	(-9%)	(-3%)	(-2%)	(-4%)	(-4%)	(-5%)	(-1%)	(-5%)	(-8%)	(-2%)	(-5%)
		DROUGHT	-4	41	-34	42	20	-37	-35	-21	-6	-32	-87	-8	-13
			(-1%)	(6%)	(-4%)	(5%)	(3%)	(-6%)	(-6%)	(-4%)	(-1%)	(-6%)	(-12%)	(-1%)	(-2%)
	Jones PP	ALL	-21	-31	-56	-41	-38	-23	-17	-17	13	-11	-31	-10	-24
			(-4%)	(-5%)	(-8%)	(-6%)	(-6%)	(-4%)	(-4%)	(-4%)	(3%)	(-2%)	(-6%)	(-2%)	(-4%)
		DROUGHT	16	45	-33	-34	-62	-35	-16	-14	4	-29	-68	-4	-19
			(2%)	(6%)	(-4%)	(-4%)	(-7%)	(-4%)	(-3%)	(-2%)	(1%)	(-5%)	(-10%)	(-1%)	(-3%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-29. Period average change in EC levels for Alternative 4A ELT relative to existing conditions and the No Action Alternative ELT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 4A ELT	Location	Period [a]	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT
Western Delta	Sac. R. at Emmaton	ALL	-506	-439	-504	-350	-33	-43	-126	-120	-41	-39	30	1	28	8	5	1	10	-34	386	311	493	299	205	287	-4	-10
			(-23%)	(-21%)	(-24%)	(-18%)	(-3%)	(-3%)	(-21%)	(-20%)	(-10%)	(-10%)	(11%)	(0%)	(10%)	(3%)	(1%)	(0%)	(1%)	(-4%)	(40%)	(30%)	(37%)	(19%)	(10%)	(14%)	(-0%)	(-1%)
		DROUGHT	-512	-548	-471	-448	118	-50	-176	-262	-17	-67	58	1	47	18	97	-4	126	-21	740	601	717	268	754	296	123	-18
			(-18%)	(-19%)	(-16%)	(-16%)	(6%)	(-2%)	(-21%)	(-28%)	(-3%)	(-11%)	(18%)	(0%)	(16%)	(6%)	(17%)	(-1%)	(12%)	(-2%)	(56%)	(41%)	(41%)	(12%)	(26%)	(9%)	(9%)	(-1%)
	SJR at Jersey Point	ALL	-932	-613	-1046	-700	-364	-218	-227	-192	-87	-78	8	-8	21	11	3	4	3	-21	-372	-264	-144	-104	-329	-122	-289	-192
			(-48%)	(-38%)	(-47%)	(-38%)	(-22%)	(-14%)	(-26%)	(-23%)	(-19%)	(-18%)	(3%)	(-3%)	(8%)	(4%)	(1%)	(1%)	(1%)	(-4%)	(-26%)	(-20%)	(-9%)	(-7%)	(-16%)	(-7%)	(-25%)	(-18%)
		DROUGHT	-792	-849	-769	-633	-211	-203	-189	-245	-75	-111	27	-10	30	19	47	-2	49	-52	-591	-422	-11	162	338	181	-179	-180
			(-34%)	(-36%)	(-30%)	(-26%)	(-10%)	(-9%)	(-17%)	(-21%)	(-14%)	(-19%)	(9%)	(-3%)	(11%)	(7%)	(12%)	(-0%)	(7%)	(-7%)	(-27%)	(-21%)	(-1%)	(9%)	(14%)	(7%)	(-13%)	(-13%)
Interior Delta	S. Fork Moke. R. Term.	ALL	3	3	3	3	1	2	7	6	4	5	7	5	4	3	0	1	1	1	3	3	3	1	1	1	3	3
			(2%)	(1%)	(2%)	(1%)	(1%)	(1%)	(3%)	(3%)	(2%)	(2%)	(3%)	(2%)	(2%)	(2%)	(0%)	(0%)	(0%)	(0%)	(2%)	(2%)	(1%)	(1%)	(1%)	(0%)	(2%)	(1%)
		DROUGHT	2	2	1	1	0	1	4	4	2	4	2	5	0	1	0	1	0	1	5	5	2	-1	1	0	2	2
			(1%)	(1%)	(1%)	(1%)	(-0%)	(0%)	(2%)	(1%)	(1%)	(2%)	(1%)	(2%)	(-0%)	(1%)	(0%)	(1%)	(0%)	(1%)	(3%)	(2%)	(1%)	(-0%)	(0%)	(0%)	(1%)	(1%)
	SJR at San And. Landing	ALL	-104	-99	-223	-191	-115	-87	-61	-62	-15	-10	11	10	17	18	9	11	14	11	-60	-38	-46	-47	-17	-17	-49	-42
			(-20%)	(-19%)	(-36%)	(-32%)	(-19%)	(-15%)	(-14%)	(-15%)	(-5%)	(-4%)	(5%)	(4%)	(7%)	(8%)	(4%)	(4%)	(6%)	(4%)	(-16%)	(-10%)	(-11%)	(-11%)	(-3%)	(-3%)	(-12%)	(-11%)
		DROUGHT	-73	-143	-156	-220	-54	-83	-54	-89	-17	-28	13	11	18	21	22	16	23	2	-110	-70	-49	-42	115	49	-27	-48
			(-12%)	(-21%)	(-22%)	(-28%)	(-7%)	(-11%)	(-10%)	(-15%)	(-5%)	(-8%)	(5%)	(4%)	(8%)	(9%)	(9%)	(6%)	(9%)	(1%)	(-21%)	(-14%)	(-9%)	(-8%)	(18%)	(7%)	(-6%)	(-10%)
Southern Delta	SJR at Vernalis	ALL	-12	0	-38	0	-44	0	-68	-3	-26	0	-29	0	-19	0	-19	0	16	1	12	0	-10	0	-20	0	-21	0
			(-2%)	(0%)	(-7%)	(0%)	(-6%)	(0%)	(-9%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(3%)	(0%)	(2%)	(0%)	(-2%)	(0%)	(-4%)	(-0%)	(-4%)	(-0%)
		DROUGHT	-35	0	-46	0	-55	0	-78	0	-9	0	-20	0	-18	0	-16	0	-7	0	-6	0	-9	0	-22	0	-27	0
			(-6%)	(0%)	(-7%)	(-0%)	(-6%)	(-0%)	(-9%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-3%)	(0%)	(-3%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-4%)	(0%)	(-4%)	(0%)
	SJR at Brandt Bridge	ALL	-13	0	-37	0	-44	1	-70	-7	-29	0	-28	-1	-21	-3	-19	-1	16	1	8	2	-8	1	-19	0	-22	-1
			(-3%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-9%)	(-1%)	(-4%)	(0%)	(-4%)	(-0%)	(-5%)	(-1%)	(-4%)	(-0%)	(3%)	(0%)	(1%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(-0%)
		DROUGHT	-35	0	-46	0	-55	1	-78	-2	-14	2	-20	-2	-21	-7	-16	-1	-7	0	-20	6	-9	5	-20	0	-28	0
			(-6%)	(-0%)	(-7%)	(0%)	(-7%)	(0%)	(-9%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-3%)	(-1%)	(-3%)	(-0%)	(-1%)	(0%)	(-3%)	(1%)	(-1%)	(1%)	(-3%)	(0%)	(-4%)	(0%)
	Old River at Middle River	ALL	-10	4	-36	0	-44	0	-63	1	-27	1	-26	1	-15	3	-17	1	15	1	13	0	-8	0	-19	0	-20	1
			(-2%)	(1%)	(-6%)	(0%)	(-6%)	(-0%)	(-8%)	(0%)	(-4%)	(0%)	(-4%)	(0%)	(-3%)	(1%)	(-4%)	(0%)	(3%)	(0%)	(2%)	(0%)	(-1%)	(0%)	(-4%)	(-0%)	(-3%)	(0%)
		DROUGHT	-30	4	-45	0	-55	0	-73	4	-12	1	-17	2	-9	6	-13	2	-7	0	-4	1	-8	0	-21	0	-25	2
			(-5%)	(1%)	(-7%)	(0%)	(-6%)	(-0%)	(-8%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-1%)	(1%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-5	14	-27	5	-44	0	-45	15	-21	11	-19	8	3	22	-12	6	-3	-2	-25	-29	-22	-8	-20	-4	-20	3
			(-1%)	(3%)	(-5%)	(1%)	(-6%)	(-0%)	(-6%)	(2%)	(-3%)	(2%)	(-3%)	(1%)	(1%)	(5%)	(-3%)	(1%)	(-1%)	(-0%)	(-4%)	(-5%)	(-4%)	(-1%)	(-4%)	(-1%)	(-3%)	(1%)
		DROUGHT	-3	29	-33	17	-53	0	-60	12	-16	2	-7	11	22	38	-7	8	-62	-15	-124	-94	-94	-57	-40	-21	-40	-6
			(-0%)	(5%)	(-5%)	(3%)	(-6%)	(0%)	(-7%)	(1%)	(-2%)	(0%)	(-1%)	(1%)	(3%)	(6%)	(-1%)	(1%)	(-10%)	(-3%)	(-19%)	(-15%)	(-14%)	(-9%)	(-6%)	(-3%)	(-5%)	(-1%)
SJR	SJR at Prisoners Point	ALL	-72	-50	-190	-157	-145	-96	-56	-47	10	29	29	47	30	47	9	24	25	33	-74	-40	-87	-61	-47	-36	-47	-26
			(-14%)	(-10%)	(-32%)	(-28%)	(-23%)	(-17%)	(-11%)	(-9%)	(3%)	(8%)	(9%)	(15%)	(9%)	(15%)	(3%)	(8%)	(9%)	(12%)	(-18%)	(-11%)	(-19%)	(-14%)	(-9%)	(-7%)	(-11%)	(-6%)
		DROUGHT	-46	-89	-139	-201	-95	-90	-44	-75	3	10	45	77	52	75	41	47	30	18	-159	-108	-122	-58	47	28	-32	-31
			(-8%)	(-14%)	(-21%)	(-28%)	(-13%)	(-12%)	(-7%)	(-12%)	(1%)	(2%)	(12%)	(22%)	(15%)	(22%)	(13%)	(15%)	(11%)	(7%)	(-29%)	(-22%)	(-20%)	(-11%)	(8%)	(4%)	(-6%)	(-6%)
Export Area	Banks PP	ALL	-156	-124	-228	-188	-212	-153	-205	-188	-118	-109	-137	-118	-59	-39	-13	7	-36	-30	-134	-113	-172	-130	-141	-129	-134	-110
			(-28%)	(-23%)	(-36%)	(-32%)	(-31%)	(-25%)	(-31%)	(-29%)	(-22%)	(-21%)	(-29%)	(-25%)	(-13%)	(-9%)	(-3%)	(2%)	(-9%)	(-8%)	(-31%)	(-28%)	(-32%)	(-27%)	(-25%)	(-24%)	(-25%)	(-22%)
		DROUGHT	-100	-95	-194	-236	-175	-141	-131	-173	-108	-128	-246	-209	-93	-58	1	22	18	23	-169	-136	-261	-174	-73	-65	-128	-114
			(-15%)	(-15%)	(-27%)	(-31%)	(-22%)	(-18%)	(-17%)	(-21%)	(-16%)	(-19%)	(-38%)	(-34%)	(-15%)	(-10%)	(0%)	(4%)	(4%)	(6%)	(-32%)	(-27%)	(-36%)	(-27%)	(-11%)	(-10%)	(-20%)	(-18%)
	Jones PP	ALL	-138	-116	-219	-188	-147	-91	-217	-176	-214	-176	-234	-211	-82	-65	-80	-63	-100	-113	-106	-95	-122	-90	-89	-79	-146	-122
			(-25%)	(-22%)	(-35%)	(-32%)	(-21%)	(-14%)	(-31%)	(-26%)	(-34%)	(-30%)	(-40%)	(-37%)	(-17%)	(-14%)	(-18%)	(-15%)	(-25%)	(-28%)	(-23%)	(-21%)	(-23%)	(-18%)	(-16%)	(-15%)	(-26%)	(-23%)
		DROUGHT	-112	-128	-169	-214	-145	-112	-285	-251	-239	-177	-355	-321	-75	-59	-104	-91	-79	-82	-186	-156	-158	-90	-23	-19	-161	-142
			(-17%)	(-19%)	(-24%)	(-29%)	(-18%)	(-14%)	(-34%)	(-31%)	(-28%)	(-23%)	(-41%)	(-39%)	(-12%)	(-9%)	(-18%)	(-16%)	(-20%)	(-21%)	(-34%)	(-30%)	(-23%)	(-14%)	(-4%)	(-3%)	(-24%)	(-21%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-30. Period average change in EC levels for Alternative 2D ELT relative to existing conditions and the No Action Alternative ELT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 2D ELT	Location	Period [a]	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT
Western Delta	Sac. R. at Emmaton	ALL	-637	-570	-634	-479	-149	-160	-151	-146	-68	-66	12	-17	15	-5	-12	-16	-45	-89	152	77	273	79	-21	61	-105	-111
			(-29%)	(-27%)	(-30%)	(-25%)	(-12%)	(-13%)	(-25%)	(-24%)	(-17%)	(-16%)	(5%)	(-6%)	(5%)	(-2%)	(-3%)	(-3%)	(-5%)	(-10%)	(16%)	(7%)	(20%)	(5%)	(-1%)	(3%)	(-10%)	(-10%)
		DROUGHT	-710	-746	-707	-684	-113	-281	-210	-297	-54	-104	33	-24	29	1	98	-3	94	-54	569	430	536	87	385	-74	-4	-146
			(-24%)	(-25%)	(-24%)	(-24%)	(-6%)	(-14%)	(-25%)	(-32%)	(-10%)	(-17%)	(10%)	(-7%)	(10%)	(0%)	(17%)	(-0%)	(9%)	(-5%)	(43%)	(29%)	(31%)	(4%)	(13%)	(-2%)	(-0%)	(-9%)
	SJR at Jersey Point	ALL	-1005	-686	-1127	-781	-451	-305	-260	-225	-88	-79	2	-14	13	4	-2	-2	-32	-56	-336	-228	-260	-219	-528	-321	-340	-243
			(-52%)	(-42%)	(-51%)	(-42%)	(-27%)	(-20%)	(-30%)	(-27%)	(-20%)	(-18%)	(1%)	(-4%)	(5%)	(1%)	(-1%)	(-1%)	(-6%)	(-10%)	(-24%)	(-17%)	(-17%)	(-15%)	(-26%)	(-17%)	(-30%)	(-23%)
		DROUGHT	-935	-991	-929	-793	-397	-389	-241	-296	-91	-127	12	-25	22	10	56	7	37	-65	-642	-472	-286	-114	-31	-189	-285	-287
			(-41%)	(-42%)	(-36%)	(-33%)	(-18%)	(-18%)	(-22%)	(-26%)	(-17%)	(-22%)	(4%)	(-7%)	(8%)	(4%)	(14%)	(1%)	(5%)	(-8%)	(-29%)	(-23%)	(-15%)	(-7%)	(-1%)	(-7%)	(-20%)	(-20%)
Interior Delta	S. Fork Moke. R. Term.	ALL	5	4	4	4	1	2	10	9	6	7	7	6	5	4	0	1	1	1	2	2	3	2	2	1	4	4
			(2%)	(2%)	(2%)	(2%)	(1%)	(1%)	(4%)	(4%)	(3%)	(3%)	(3%)	(3%)	(2%)	(2%)	(0%)	(0%)	(1%)	(1%)	(1%)	(1%)	(2%)	(1%)	(1%)	(1%)	(2%)	(2%)
		DROUGHT	3	2	1	1	0	1	5	5	2	5	3	5	0	2	0	1	1	2	5	5	3	1	1	1	2	2
			(1%)	(1%)	(1%)	(1%)	(-0%)	(1%)	(2%)	(2%)	(1%)	(2%)	(1%)	(2%)	(0%)	(1%)	(0%)	(0%)	(1%)	(1%)	(3%)	(3%)	(2%)	(0%)	(1%)	(0%)	(1%)	(1%)
	SJR at San And. Landing	ALL	-122	-117	-243	-212	-140	-112	-70	-70	-16	-11	9	7	15	16	6	8	11	8	-45	-23	-45	-46	-55	-55	-58	-51
			(-24%)	(-23%)	(-39%)	(-36%)	(-24%)	(-20%)	(-16%)	(-17%)	(-6%)	(-4%)	(4%)	(3%)	(7%)	(7%)	(2%)	(3%)	(4%)	(3%)	(-12%)	(-6%)	(-10%)	(-11%)	(-11%)	(-11%)	(-15%)	(-13%)
		DROUGHT	-118	-188	-208	-271	-112	-141	-80	-115	-24	-35	10	8	14	17	19	12	26	5	-117	-77	-87	-80	9	-57	-56	-77
			(-19%)	(-28%)	(-29%)	(-35%)	(-15%)	(-19%)	(-15%)	(-20%)	(-7%)	(-10%)	(4%)	(3%)	(6%)	(7%)	(8%)	(5%)	(10%)	(2%)	(-22%)	(-16%)	(-16%)	(-15%)	(1%)	(-8%)	(-12%)	(-16%)
Southern Delta	SJR at Vernalis	ALL	-12	0	-39	0	-44	0	-67	-1	-26	0	-28	0	-19	0	-19	0	16	1	12	0	-10	0	-20	0	-21	0
			(-2%)	(0%)	(-7%)	(-0%)	(-6%)	(-0%)	(-9%)	(-0%)	(-4%)	(0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(3%)	(0%)	(2%)	(0%)	(-2%)	(0%)	(-4%)	(0%)	(-4%)	(-0%)
		DROUGHT	-35	0	-46	0	-55	0	-78	0	-9	0	-20	0	-18	0	-16	0	-7	0	-6	0	-9	0	-22	0	-27	0
			(-6%)	(0%)	(-7%)	(-0%)	(-6%)	(-0%)	(-9%)	(-0%)	(-1%)	(-0%)	(-2%)	(0%)	(-3%)	(0%)	(-3%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-4%)	(0%)	(-4%)	(0%)
	SJR at Brandt Bridge	ALL	-13	0	-37	0	-44	1	-68	-5	-29	0	-28	-1	-21	-3	-19	-1	16	1	9	2	-8	1	-19	0	-22	0
			(-3%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-9%)	(-1%)	(-4%)	(0%)	(-4%)	(-0%)	(-5%)	(-1%)	(-4%)	(-0%)	(3%)	(0%)	(1%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(-0%)
		DROUGHT	-34	0	-46	0	-55	1	-78	-2	-14	2	-20	-2	-21	-7	-16	-1	-7	0	-18	7	-9	5	-20	0	-28	0
			(-6%)	(-0%)	(-7%)	(0%)	(-7%)	(0%)	(-9%)	(-0%)	(-1%)	(0%)	(-2%)	(-0%)	(-3%)	(-1%)	(-3%)	(-0%)	(-1%)	(0%)	(-3%)	(1%)	(-1%)	(1%)	(-3%)	(0%)	(-4%)	(0%)
	Old River at Middle River	ALL	-9	4	-36	0	-44	0	-61	3	-26	2	-26	1	-15	3	-17	1	15	1	13	0	-8	0	-19	0	-19	1
			(-2%)	(1%)	(-6%)	(0%)	(-6%)	(-0%)	(-8%)	(0%)	(-4%)	(0%)	(-4%)	(0%)	(-3%)	(1%)	(-4%)	(0%)	(3%)	(0%)	(2%)	(0%)	(-1%)	(0%)	(-4%)	(-0%)	(-3%)	(0%)
		DROUGHT	-30	4	-45	0	-55	0	-73	4	-12	1	-17	2	-9	6	-13	2	-7	0	-4	1	-7	0	-21	0	-25	2
			(-5%)	(1%)	(-7%)	(0%)	(-6%)	(-0%)	(-8%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-2%)	(1%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(-0%)	(-3%)	(0%)
	Old River at Tracy Bridge	ALL	-11	9	-32	0	-44	-1	-40	20	-19	12	-19	8	3	22	-12	6	-5	-4	-21	-25	-28	-13	-22	-6	-21	2
			(-2%)	(2%)	(-6%)	(-0%)	(-6%)	(-0%)	(-5%)	(3%)	(-3%)	(2%)	(-3%)	(1%)	(1%)	(5%)	(-3%)	(1%)	(-1%)	(-1%)	(-4%)	(-4%)	(-5%)	(-2%)	(-4%)	(-1%)	(-3%)	(0%)
		DROUGHT	-17	15	-44	5	-54	0	-60	11	-17	1	-7	11	19	35	-8	7	-64	-17	-101	-71	-103	-66	-46	-27	-42	-8
			(-3%)	(3%)	(-7%)	(1%)	(-6%)	(-0%)	(-7%)	(1%)	(-2%)	(0%)	(-1%)	(1%)	(3%)	(6%)	(-1%)	(1%)	(-10%)	(-3%)	(-15%)	(-11%)	(-15%)	(-10%)	(-7%)	(-4%)	(-6%)	(-1%)
SJR	SJR at Prisoners Point	ALL	-86	-64	-204	-171	-164	-115	-60	-51	10	29	24	43	25	43	4	19	23	31	-62	-28	-71	-45	-70	-60	-53	-31
			(-17%)	(-13%)	(-34%)	(-30%)	(-27%)	(-20%)	(-12%)	(-10%)	(3%)	(8%)	(7%)	(13%)	(7%)	(14%)	(1%)	(6%)	(8%)	(11%)	(-15%)	(-7%)	(-16%)	(-10%)	(-14%)	(-12%)	(-12%)	(-7%)
		DROUGHT	-92	-135	-176	-238	-146	-141	-78	-110	-5	2	44	75	40	63	28	34	32	21	-163	-112	-153	-89	-46	-66	-60	-58
			(-16%)	(-21%)	(-27%)	(-33%)	(-20%)	(-19%)	(-13%)	(-17%)	(-1%)	(0%)	(11%)	(21%)	(11%)	(19%)	(9%)	(11%)	(12%)	(7%)	(-29%)	(-22%)	(-25%)	(-16%)	(-8%)	(-10%)	(-12%)	(-11%)
Export Area	Banks PP	ALL	-182	-150	-241	-201	-249	-190	-275	-257	-160	-152	-156	-137	-111	-92	-37	-16	-36	-30	-100	-79	-134	-92	-178	-167	-155	-130
			(-32%)	(-28%)	(-38%)	(-34%)	(-37%)	(-31%)	(-42%)	(-40%)	(-30%)	(-29%)	(-33%)	(-30%)	(-24%)	(-21%)	(-8%)	(-4%)	(-9%)	(-8%)	(-23%)	(-19%)	(-25%)	(-19%)	(-32%)	(-31%)	(-29%)	(-26%)
		DROUGHT	-170	-166	-227	-269	-231	-197	-205	-247	-99	-120	-256	-219	-175	-140	-99	-77	2	8	-235	-203	-244	-157	-129	-121	-172	-159
			(-26%)	(-26%)	(-32%)	(-36%)	(-29%)	(-25%)	(-26%)	(-30%)	(-15%)	(-18%)	(-40%)	(-36%)	(-28%)	(-23%)	(-18%)	(-15%)	(1%)	(2%)	(-44%)	(-41%)	(-34%)	(-25%)	(-20%)	(-19%)	(-27%)	(-25%)
	Jones PP	ALL	-140	-118	-230	-199	-167	-111	-242	-201	-210	-172	-244	-221	-114	-97	-126	-108	-99	-113	-70	-58	-86	-55	-162	-151	-157	-134
			(-25%)	(-22%)	(-37%)	(-34%)	(-24%)	(-17%)	(-34%)	(-30%)	(-34%)	(-29%)	(-41%)	(-39%)	(-24%)	(-21%)	(-29%)	(-26%)	(-25%)	(-28%)	(-15%)	(-13%)	(-16%)	(-11%)	(-29%)	(-28%)	(-28%)	(-25%)
		DROUGHT	-110	-126	-194	-239	-171	-139	-258	-224	-266	-204	-363	-329	-132	-116	-192	-178	-60	-64	-146	-117	-197	-130	-100	-96	-183	-163
			(-17%)	(-19%)	(-28%)	(-32%)	(-21%)	(-18%)	(-30%)	(-28%)	(-32%)	(-26%)	(-42%)	(-40%)	(-20%)	(-18%)	(-34%)	(-32%)	(-15%)	(-16%)	(-27%)	(-22%)	(-28%)	(-21%)	(-16%)	(-15%)	(-27%)	(-25%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-31. Period average change in EC levels for Alternative 5A ELT relative to existing conditions and the No Action Alternative ELT.

Electrical Conductivity			OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
Alt 5A ELT	Location	Period [a]	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT	Ex. Cond.	No Act. ELT
Western Delta	Sac. R. at Emmaton	ALL	-64	3	-90	64	-49	-59	-33	-28	-13	-11	23	-7	13	-7	-21	-25	-20	-64	145	70	206	12	-67	15	3	-3
			(-3%)	(0%)	(-4%)	(3%)	(-4%)	(-5%)	(-5%)	(-5%)	(-3%)	(-3%)	(8%)	(-2%)	(5%)	(-2%)	(-4%)	(-5%)	(-2%)	(-7%)	(15%)	(7%)	(15%)	(1%)	(-3%)	(1%)	(0%)	(-0%)
		DROUGHT	18	-18	-8	15	35	-133	-7	-94	-2	-52	38	-19	24	-4	61	-40	50	-97	501	362	512	63	350	-108	131	-10
			(1%)	(-1%)	(-0%)	(1%)	(2%)	(-6%)	(-1%)	(-10%)	(-0%)	(-9%)	(12%)	(-5%)	(8%)	(-1%)	(10%)	(-6%)	(5%)	(-8%)	(38%)	(25%)	(30%)	(3%)	(12%)	(-3%)	(9%)	(-1%)
	SJR at Jersey Point	ALL	-430	-112	-431	-85	-220	-74	-49	-14	-15	-6	15	-1	8	-1	-13	-13	-29	-53	-275	-167	-268	-228	-552	-345	-188	-92
			(-22%)	(-7%)	(-20%)	(-5%)	(-13%)	(-5%)	(-6%)	(-2%)	(-3%)	(-1%)	(5%)	(-0%)	(3%)	(-0%)	(-4%)	(-4%)	(-5%)	(-9%)	(-19%)	(-13%)	(-18%)	(-15%)	(-27%)	(-19%)	(-17%)	(-9%)
		DROUGHT	-138	-194	-302	-166	-175	-167	-72	-128	9	-26	30	-7	11	0	25	-24	15	-87	-565	-396	-341	-168	-83	-241	-132	-134
			(-6%)	(-8%)	(-12%)	(-7%)	(-8%)	(-8%)	(-7%)	(-11%)	(2%)	(-4%)	(9%)	(-2%)	(4%)	(-0%)	(6%)	(-5%)	(2%)	(-11%)	(-26%)	(-20%)	(-18%)	(-10%)	(-3%)	(-9%)	(-9%)	(-9%)
Interior Delta	S. Fork Moke. R. Term.	ALL	2	1	2	2	0	0	2	2	0	1	3	1	1	1	0	0	0	0	1	1	3	1	2	1	1	1
			(1%)	(1%)	(1%)	(1%)	(-0%)	(0%)	(1%)	(1%)	(-0%)	(0%)	(1%)	(1%)	(1%)	(0%)	(-0%)	(0%)	(0%)	(0%)	(1%)	(1%)	(1%)	(1%)	(1%)	(1%)	(1%)	(0%)
		DROUGHT	1	1	1	1	-1	0	2	2	-2	0	-1	2	-1	0	-1	0	0	1	5	4	4	1	1	1	1	1
			(1%)	(1%)	(1%)	(1%)	(-0%)	(0%)	(1%)	(1%)	(-1%)	(0%)	(-0%)	(1%)	(-0%)	(0%)	(-0%)	(0%)	(0%)	(0%)	(2%)	(2%)	(2%)	(1%)	(1%)	(0%)	(0%)	(1%)
	SJR at San And. Landing	ALL	-38	-33	-50	-19	-58	-30	-14	-14	-6	-1	3	1	0	1	-4	-1	-3	-7	-46	-24	-43	-44	-68	-68	-27	-20
			(-7%)	(-7%)	(-8%)	(-3%)	(-10%)	(-5%)	(-3%)	(-3%)	(-2%)	(-0%)	(1%)	(1%)	(0%)	(1%)	(-1%)	(-1%)	(-1%)	(-3%)	(-12%)	(-7%)	(-10%)	(-10%)	(-13%)	(-13%)	(-7%)	(-5%)
		DROUGHT	18	-52	-7	-70	-34	-64	-22	-56	-1	-12	1	-1	-3	-1	3	-4	11	-10	-86	-46	-71	-64	-3	-69	-16	-37
			(3%)	(-8%)	(-1%)	(-9%)	(-5%)	(-8%)	(-4%)	(-10%)	(-0%)	(-4%)	(1%)	(-0%)	(-1%)	(-0%)	(1%)	(-1%)	(5%)	(-4%)	(-16%)	(-9%)	(-13%)	(-12%)	(-0%)	(-10%)	(-3%)	(-8%)
Southern Delta	SJR at Vernalis	ALL	-12	0	-38	0	-44	0	-67	-2	-26	0	-29	0	-19	0	-19	0	16	1	12	1	-9	1	-20	0	-21	0
			(-2%)	(0%)	(-7%)	(0%)	(-6%)	(0%)	(-9%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(0%)	(-4%)	(0%)	(3%)	(0%)	(2%)	(0%)	(-2%)	(0%)	(-4%)	(0%)	(-4%)	(0%)
		DROUGHT	-35	0	-46	0	-55	0	-78	0	-9	0	-20	0	-17	0	-15	0	-7	0	-5	2	-6	2	-22	1	-26	1
			(-6%)	(0%)	(-7%)	(0%)	(-6%)	(0%)	(-9%)	(0%)	(-1%)	(-0%)	(-2%)	(0%)	(-3%)	(0%)	(-3%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(0%)
	SJR at Brandt Bridge	ALL	-13	0	-37	0	-45	0	-64	-2	-29	0	-28	0	-18	0	-18	0	16	1	7	1	-8	1	-18	0	-21	0
			(-3%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-9%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(0%)	(-4%)	(0%)	(3%)	(0%)	(1%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(0%)
		DROUGHT	-34	0	-46	0	-56	0	-75	0	-16	0	-18	0	-13	1	-14	0	-7	0	-22	3	-9	5	-19	1	-27	1
			(-6%)	(0%)	(-7%)	(0%)	(-7%)	(0%)	(-8%)	(-0%)	(-2%)	(-0%)	(-2%)	(-0%)	(-2%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-1%)	(1%)	(-3%)	(0%)	(-4%)	(0%)
	Old River at Middle River	ALL	-13	0	-36	0	-44	0	-65	-2	-28	0	-28	0	-18	0	-18	0	16	1	13	1	-7	1	-18	0	-21	0
			(-3%)	(0%)	(-6%)	(0%)	(-6%)	(0%)	(-9%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(0%)	(3%)	(0%)	(2%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(0%)
		DROUGHT	-34	0	-45	0	-55	0	-76	0	-13	0	-19	0	-15	0	-15	0	-7	0	-3	2	-5	2	-20	1	-26	1
			(-6%)	(0%)	(-7%)	(0%)	(-6%)	(0%)	(-8%)	(0%)	(-1%)	(0%)	(-2%)	(0%)	(-2%)	(0%)	(-2%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-1%)	(0%)	(-3%)	(0%)	(-4%)	(0%)
	Old River at Tracy Bridge	ALL	-20	-1	-33	-1	-43	0	-62	-2	-32	0	-27	0	-19	0	-18	0	0	1	-15	-19	-24	-10	-21	-4	-26	-3
			(-4%)	(-0%)	(-6%)	(-0%)	(-6%)	(0%)	(-8%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(-0%)	(-4%)	(0%)	(0%)	(0%)	(-3%)	(-3%)	(-4%)	(-2%)	(-4%)	(-1%)	(-4%)	(-1%)
		DROUGHT	-31	2	-51	-1	-53	0	-72	0	-18	0	-18	0	-16	-1	-14	0	-48	0	-86	-56	-81	-44	-37	-17	-44	-10
			(-5%)	(0%)	(-8%)	(-0%)	(-6%)	(0%)	(-8%)	(0%)	(-2%)	(-0%)	(-2%)	(0%)	(-2%)	(-0%)	(-2%)	(0%)	(-8%)	(-0%)	(-13%)	(-9%)	(-12%)	(-7%)	(-6%)	(-3%)	(-6%)	(-1%)
SJR	SJR at Prisoners Point	ALL	-48	-26	-39	-6	-77	-27	-24	-15	-22	-3	-16	2	-16	2	-15	0	-11	-3	-65	-32	-70	-44	-82	-71	-40	-19
			(-9%)	(-5%)	(-7%)	(-1%)	(-12%)	(-5%)	(-5%)	(-3%)	(-6%)	(-1%)	(-5%)	(1%)	(-5%)	(0%)	(-5%)	(0%)	(-4%)	(-1%)	(-16%)	(-8%)	(-15%)	(-10%)	(-16%)	(-14%)	(-9%)	(-4%)
		DROUGHT	-4	-46	-10	-72	-63	-58	-26	-57	-24	-17	-32	-1	-26	-3	-8	-2	8	-3	-130	-79	-126	-63	-56	-75	-41	-40
			(-1%)	(-7%)	(-2%)	(-10%)	(-9%)	(-8%)	(-4%)	(-9%)	(-6%)	(-4%)	(-8%)	(-0%)	(-7%)	(-1%)	(-3%)	(-1%)	(3%)	(-1%)	(-23%)	(-16%)	(-21%)	(-12%)	(-9%)	(-12%)	(-8%)	(-8%)
Export Area	Banks PP	ALL	-130	-98	-139	-99	-127	-68	-110	-92	-67	-59	-77	-57	-113	-93	-47	-27	-46	-40	-87	-66	-133	-92	-154	-143	-102	-78
			(-23%)	(-18%)	(-22%)	(-17%)	(-19%)	(-11%)	(-17%)	(-14%)	(-13%)	(-11%)	(-16%)	(-12%)	(-24%)	(-21%)	(-11%)	(-6%)	(-12%)	(-10%)	(-20%)	(-16%)	(-25%)	(-19%)	(-28%)	(-26%)	(-19%)	(-15%)
		DROUGHT	-114	-109	-66	-107	-150	-116	-93	-135	-38	-59	-141	-104	-155	-120	-56	-35	-30	-25	-149	-116	-215	-127	-108	-100	-110	-96
			(-18%)	(-17%)	(-9%)	(-14%)	(-19%)	(-15%)	(-12%)	(-16%)	(-6%)	(-9%)	(-22%)	(-17%)	(-25%)	(-20%)	(-10%)	(-7%)	(-7%)	(-6%)	(-28%)	(-23%)	(-30%)	(-20%)	(-17%)	(-16%)	(-17%)	(-15%)
	Jones PP	ALL	-62	-40	-124	-94	-86	-30	-133	-92	-76	-38	-139	-116	-69	-52	-83	-66	-38	-52	-54	-43	-91	-60	-132	-122	-91	-67
			(-11%)	(-8%)	(-20%)	(-16%)	(-12%)	(-5%)	(-19%)	(-14%)	(-12%)	(-6%)	(-23%)	(-20%)	(-14%)	(-11%)	(-19%)	(-16%)	(-10%)	(-13%)	(-12%)	(-9%)	(-17%)	(-12%)	(-24%)	(-23%)	(-16%)	(-13%)
		DROUGHT	-26	-42	-136	-181	-80	-48	-173	-139	-100	-39	-256	-221	-80	-64	-125	-111	-25	-29	-137	-108	-165	-97	-98	-94	-117	-98
			(-4%)	(-6%)	(-19%)	(-24%)	(-10%)	(-6%)	(-20%)	(-17%)	(-12%)	(-5%)	(-30%)	(-27%)	(-12%)	(-10%)	(-22%)	(-20%)	(-6%)	(-7%)	(-25%)	(-21%)	(-24%)	(-16%)	(-15%)	(-15%)	(-17%)	(-15%)

[a] ALL: Water years 1976-1991 represent the 16-year period modeled using DSM2. DROUGHT: Represents a 5 consecutive year (water years 1987-1991) drought period consisting of dry and critical water year types (as defined by the Sacramento Valley 40-30-30 water year hydrologic classification index).

Table EC-32: Period Average EC levels (mS/cm) for the Sacramento River at Collinsville for existing conditions, No Action Alternative ELT, and Alternatives 4A, 2D, and 5A.

	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
JAN	2.7	2.6	2.1	2.0	2.5
FEB	1.7	1.7	1.4	1.3	1.6
MAR	0.9	1.1	1.1	1.0	1.0
APR	1.0	1.1	1.1	1.1	1.1
MAY	1.9	1.9	1.9	1.8	1.8
JUN	3.2	3.4	3.2	3.0	3.2
JUL	4.5	4.6	5.0	4.5	4.5
AUG	5.6	5.8	6.5	5.9	5.7
SEP	7.3	6.4	6.9	6.4	6.3
OCT	7.7	6.6	5.6	5.3	6.5
NOV	7.4	6.4	5.5	5.2	6.4
DEC	5.2	4.8	4.7	4.4	4.7

Table EC-33: Period Average EC levels (mS/cm) for Montezuma Slough at National Steele, Suisun Marsh for existing conditions, No Action Alternative ELT, and Alternatives 4A, 2D, and 5A.

	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
JAN	2.7	2.7	2.2	2.2	2.6
FEB	1.7	1.7	1.5	1.4	1.7
MAR	1.3	1.6	1.5	1.4	1.5
APR	1.6	1.8	1.8	1.7	1.8
MAY	2.7	2.8	2.8	2.7	2.7
JUN	4.2	4.5	4.3	4.1	4.3
JUL	6.3	6.5	6.7	6.1	6.4
AUG	7.8	8.0	8.7	8.1	7.9
SEP	9.8	9.1	9.6	9.0	8.9
OCT	7.2	6.4	5.5	5.3	6.4
NOV	7.1	6.2	5.4	5.2	6.3
DEC	4.9	4.7	4.5	4.3	4.6

Table EC-34: Period Average EC levels (mS/cm) for Montezuma Slough near Beldon Landing, Suisun Marsh for existing conditions, No Action Alternative ELT, and Alternatives 4A, 2D, and 5A.

	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
JAN	3.3	3.3	2.9	2.8	3.2
FEB	2.1	2.1	1.8	1.8	2.1
MAR	2.5	2.8	2.8	2.6	2.8
APR	2.9	3.2	3.3	3.1	3.2
MAY	4.3	4.5	4.6	4.4	4.5
JUN	6.2	6.6	6.4	6.1	6.4
JUL	9.0	9.3	9.2	8.7	9.1
AUG	11.0	11.1	11.7	11.0	10.9
SEP	13.1	12.6	13.1	12.4	12.3
OCT	7.8	7.0	6.3	6.1	7.0
NOV	7.6	6.8	5.8	5.6	6.9
DEC	5.1	4.8	4.7	4.6	4.8

Table EC-35: Period Average EC levels (mS/cm) for Chadbourne Slough near Sunrise Duck Club, Suisun Marsh for existing conditions, No Action Alternative ELT, and Alternatives 4A, 2D, and 5A.

	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
JAN	7.1	7.1	6.7	6.4	7.0
FEB	4.8	4.9	4.4	4.3	4.8
MAR	3.8	4.0	3.9	3.8	4.0
APR	3.6	4.0	4.0	3.9	4.0
MAY	4.9	5.1	5.2	5.0	5.1
JUN	7.0	7.2	7.0	6.7	7.0
JUL	9.7	9.9	9.7	9.2	9.6
AUG	11.7	11.7	12.1	11.5	11.5
SEP	13.7	13.3	13.8	13.1	13.0
OCT	12.3	11.2	11.1	10.6	11.0
NOV	11.2	10.3	9.4	9.0	10.1
DEC	9.4	8.8	8.4	8.1	8.7

Table EC-36: Period Average EC levels (mS/cm) for Suisun Slough 300 feet south of Volanti Slough, Suisun Marsh for existing conditions, No Action Alternative ELT, and Alternatives 4A, 2D, and 5A.

	Ex. Cond.	No Act. ELT	Alt 4A ELT	Alt 2D ELT	Alt 5A ELT
JAN	6.4	6.3	6.0	5.9	6.3
FEB	4.4	4.4	4.0	4.0	4.4
MAR	3.7	4.0	3.8	3.7	4.0
APR	3.5	3.9	3.9	3.8	3.9
MAY	4.8	5.0	5.0	4.9	5.0
JUN	6.7	7.0	6.8	6.5	6.8
JUL	9.4	9.7	9.5	9.0	9.4
AUG	11.5	11.5	12.0	11.3	11.3
SEP	13.6	13.2	13.7	13.0	12.9
OCT	11.5	10.6	10.5	10.1	10.4
NOV	10.3	9.5	8.6	8.3	9.4
DEC	8.4	7.8	7.5	7.3	7.8

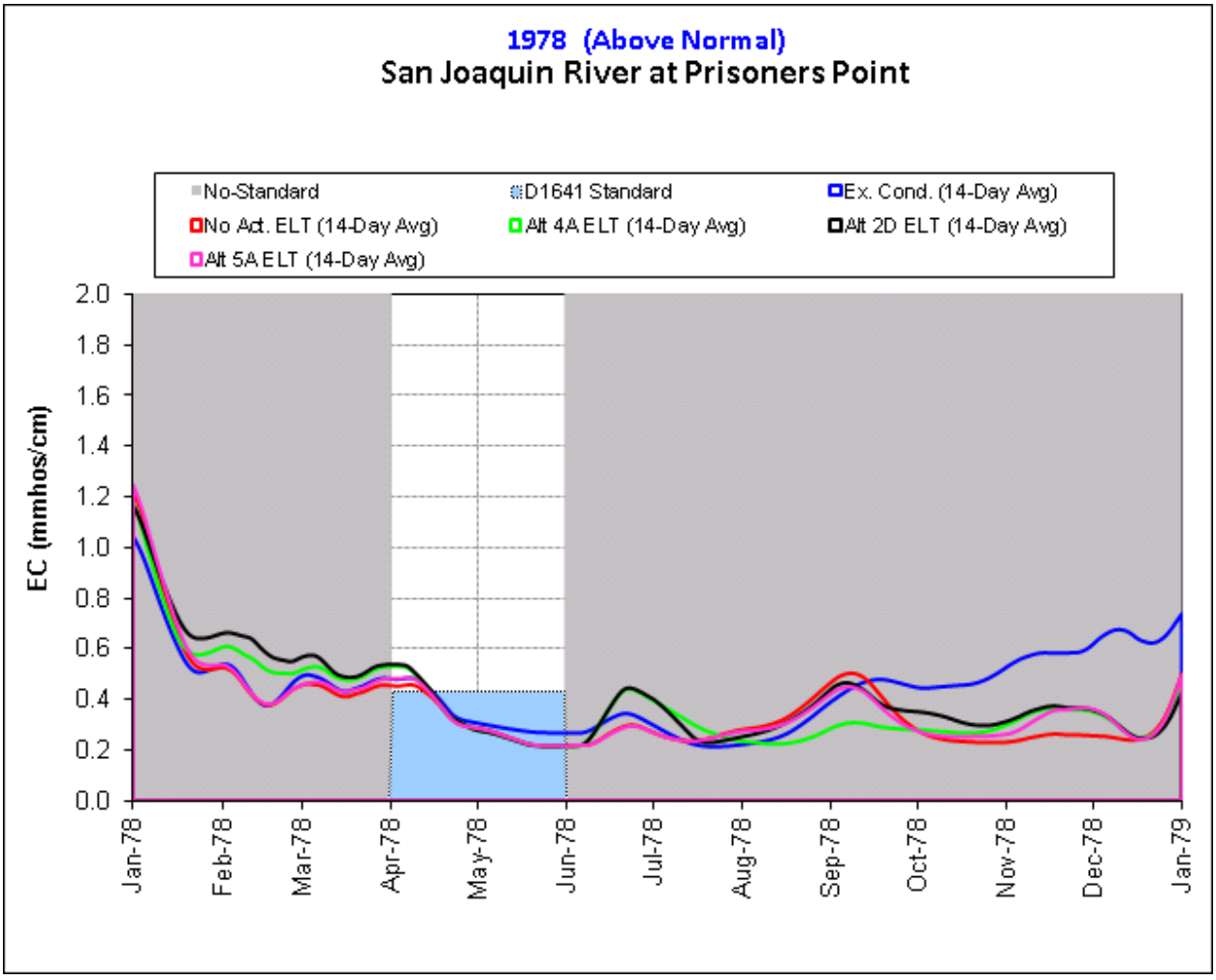

Figure EC-1. EC level of the San Joaquin River at Prisoners Point for water year 1978 for Existing Conditions, No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A (ELT).

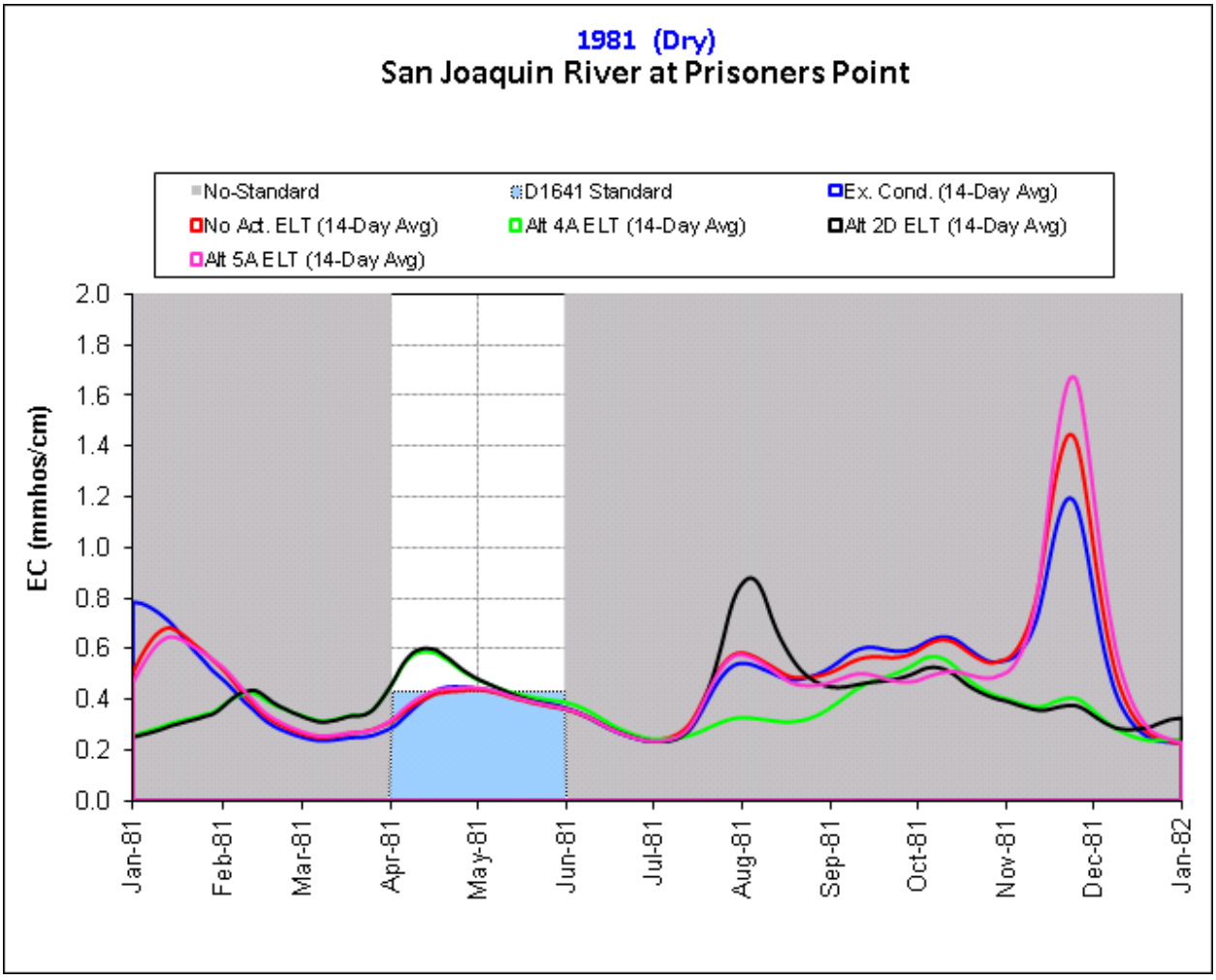

Figure EC-2. EC level of the San Joaquin River at Prisoners Point for water year 1981 for Existing Conditions, No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A (ELT).

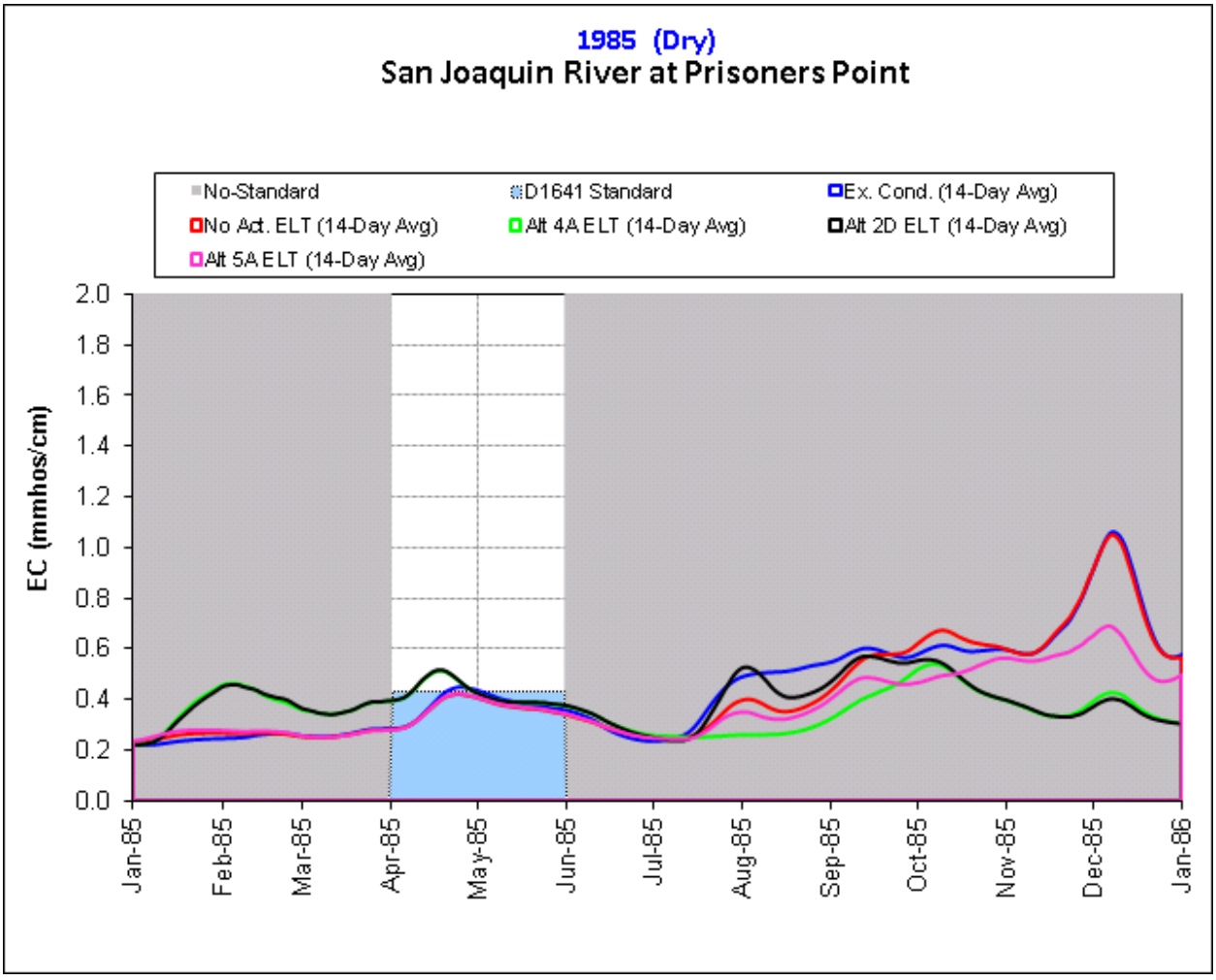

Figure EC-3. EC level of the San Joaquin River at Prisoners Point for water year 1985 for Existing Conditions, No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A (ELT).

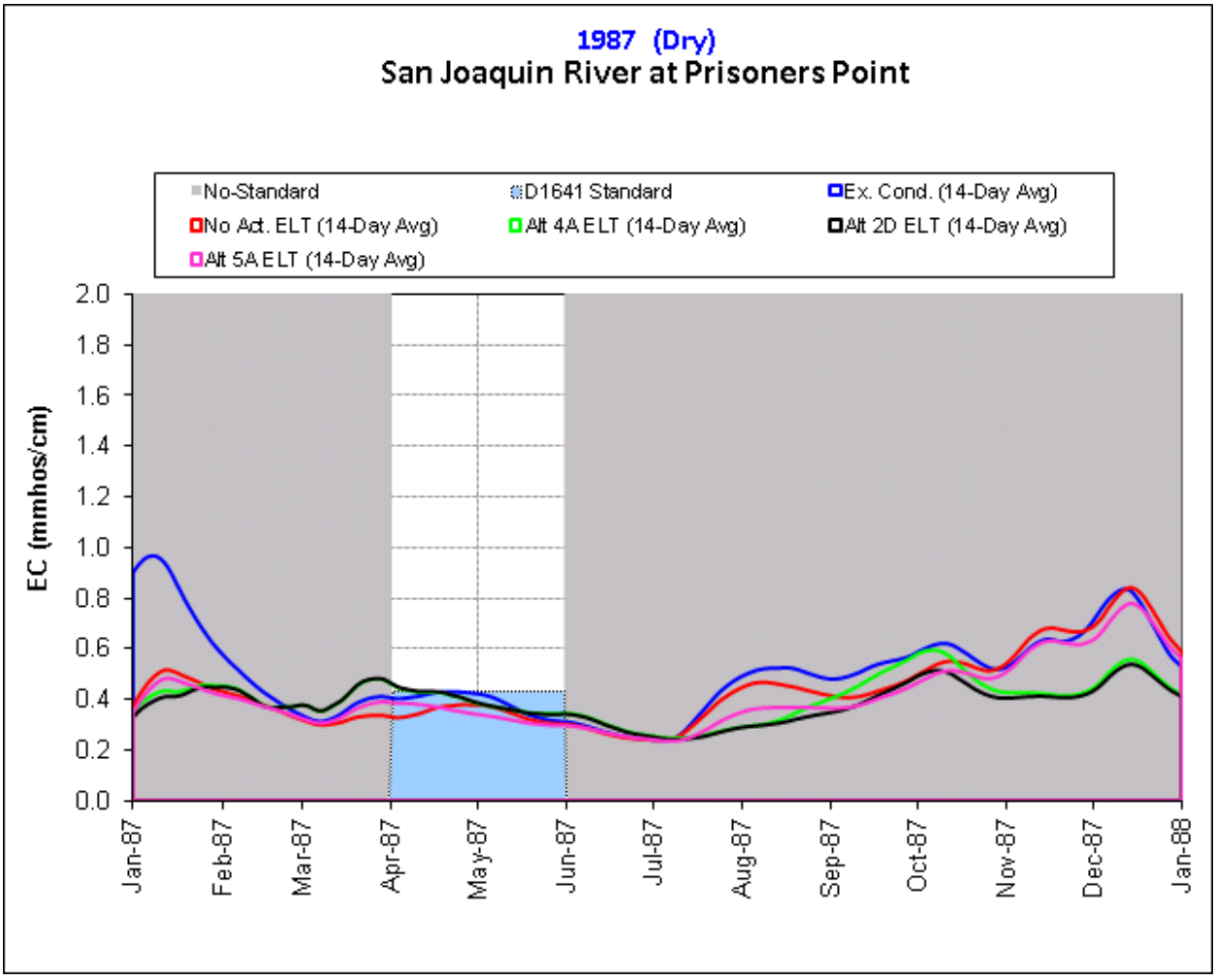

Figure EC-4. EC level of the San Joaquin River at Prisoners Point for water year 1987 for Existing Conditions, No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A (ELT).

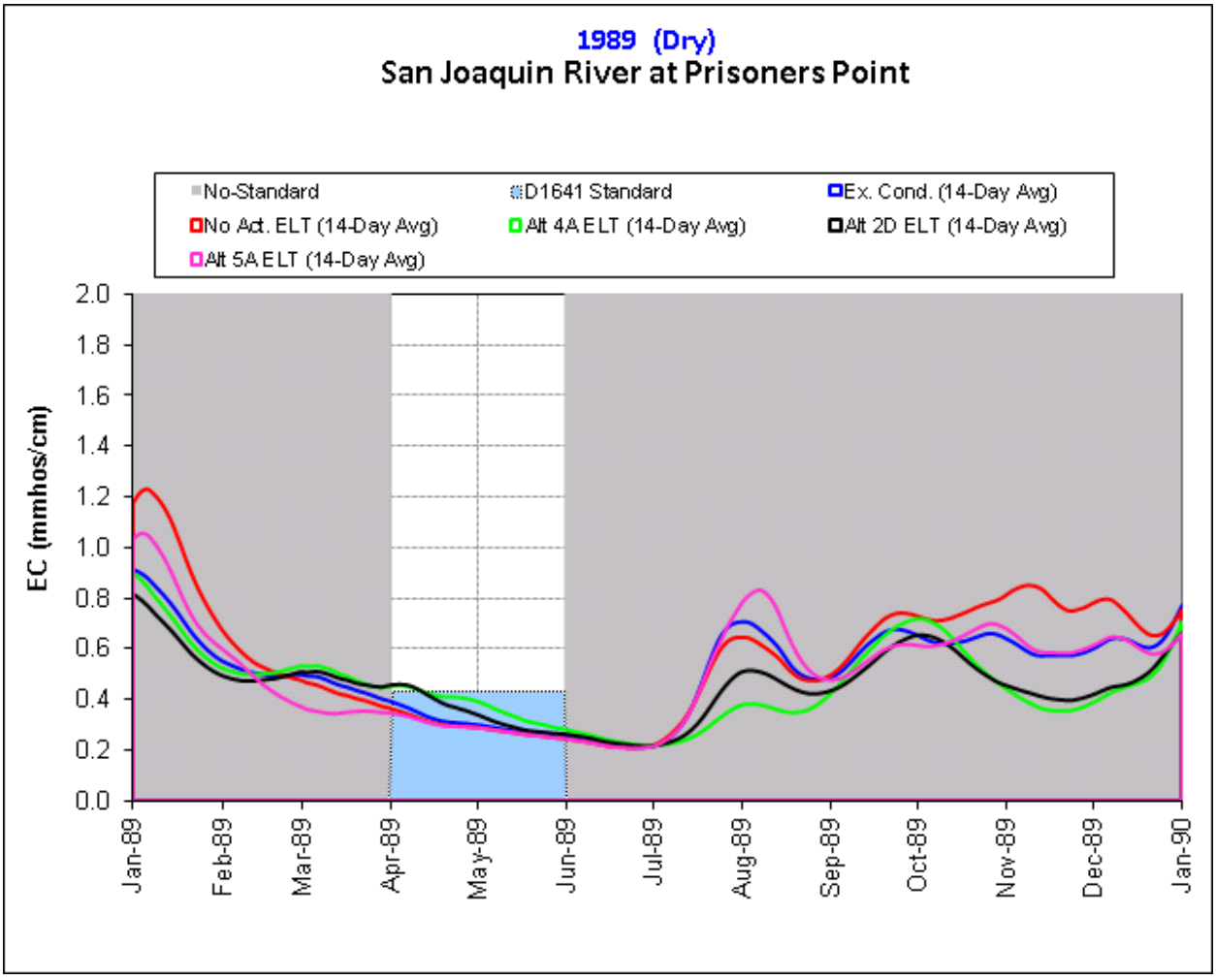

Figure EC-5. EC level of the San Joaquin River at Prisoners Point for water year 1989 for Existing Conditions, No Action Alternative (ELT), and Alternatives 4A, 2D, and 5A (ELT).

Attachment 8H-1

BDCP EIR/EIS Water Quality Sensitivity Analysis

BDCP EIR/EIS Water Quality Sensitivity Analysis

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	Rosemarie Dimacali/CH2M HILL
DATE:	June 2, 2015

This technical memorandum provides a summary of the sensitivity analysis performed to ascertain if the water quality compliance issues identified in the public draft BDCP EIR/EIS (DEIRS) are a result of the assumed operational assumptions in addition to the limitations of the modeling tools used.

Background and Objective

SWRCB D-1641 (D-1641) water quality control standards are included in the modeling of the DEIRS. However, modeling results presented in the DEIRS showed exceedances of the standards at several locations, both under DEIRS baselines as well as the Alternatives, including:

- Agriculture salinity compliance in Sacramento River at Emmaton
- Agriculture salinity compliance in San Joaquin River at San Andreas Landing
- Agriculture salinity compliance in Old River at Tracy Road Bridge
- Fish and Wildlife salinity compliance in San Joaquin River at Prisoners Point
- Fish and Wildlife salinity compliance in Suisun Marsh

Modeling sensitivity runs were formulated to examine if the documented exceedances are a result of the limitations associated with the modeling tools or potential project related impacts. The sensitivity analysis was limited to the DEIRS Existing Condition, No Action Alternative, and Alternative 4 H3.

Key Assumptions for DEIRS Alternatives Considered

DEIRS Existing Condition reflects current climate and hydrologic conditions and includes USFWS and NMFS Biological Opinions (BiOps), except for the Fall X2 action. DEIRS No Action Alternative (NAA) reflects Late Long-Term, or LLT conditions (about year 2060), increased demands, climate change and sea level rise, in addition to the BiOps. DEIRS Alternative 4 H3 LLT (Alt4 H3) is consistent with NAA except the San Joaquin River inflow to export ratio action of the NMFS BiOp is not included. Alt4 H3 also includes:

- Proposed 9,000 cfs North Delta Diversion
- Additional Oct – Jun OMR based south Delta export restrictions
- Head of Old River Barrier operations
- Proposed Fremont Weir improvements
- Year-round Rio Vista minimum flow requirement
- 65,000 acres of Delta marsh restoration, and
- D-1641 Sacramento River compliance at Emmaton relocated to the confluence with Threemile Slough.

DEIRS Salinity Modeling Approach

DEIRS salinity impacts were analyzed based on the modeling results from CALSIM II and DSM2 simulations of the DEIRS baselines and Alternatives. A detailed description of the modeling tools and approach is provided DEIRS Appendix 5A.

CALSIM II is a water operations model that simulates Delta flows for regulatory and operational criteria assumed under baselines and the Alternatives on a monthly time step. The model simulates compliance

with salinity standards in the Delta. CALSIM II relies on an "Artificial Neural Network" (ANN) for monthly averaged flow verses salinity relationships in the Delta.

DSM2 uses the monthly CALSIM II Delta flow results, and simulates Delta hydrodynamics and salinity from the water year 1976 to water year 1991, on a 15-minute time step and accounts for the sea level rise and the proposed restoration. Flow inputs assumed in DSM2 modeling for EIRS are based on monthly CALSIM II outputs downscaled to a daily time step using WY 1976 – 1991 (16 years) historical flow patterns as shown below in Figure 1. The daily patterns assumed are based on observed historical Delta flows, and do not represent any sub-monthly operational adjustments that could occur to address any potential issues with salinity control in the Delta under the DEIRS Alternatives.

Daily averaged salinity outputs from DSM2 simulations were used to evaluate compliance with salinity standards in the DEIRS.

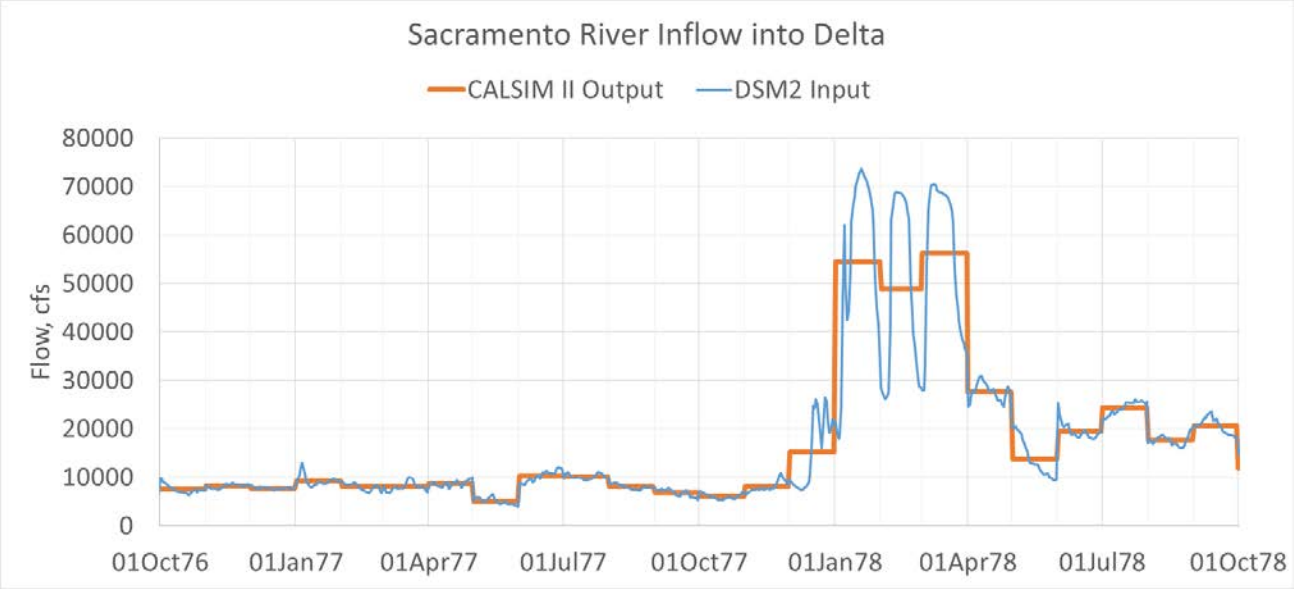

Figure 1: Example Plot Comparing Monthly Sacramento River Inflow to the Delta Resulting from CALSIM II Model, and assumed Daily Patterned Sacramento River Inflow in the DSM2 Model in the DEIRS.

Sensitivity Analyses and Findings

Sensitivity runs were formulated based on the key modeling assumptions used for the DEIRS Alternatives and the salinity modeling approach used, to identify the reason for reported exceedances.

To explain exceedances at Emmaton the following sensitivity runs performed:

- CALSIM II run of Alt4 H3, with salinity compliance at Emmaton, and corresponding DSM2 salinity simulation;
- DSM2 run using CALSIM II output for Alt4 H3 with compliance at Emmaton without the daily patterning of Delta inflows.

Additional variations of DEIRS Alt4 H3 DSM2 runs were simulated to explain exceedances at other compliance locations, including

- removing daily patterning of Delta inflows in Alt4 H3 DSM2 run
- Alt4 H3 DSM2 run with Montezuma Slough Salinity Control Gate (SCG) operations consistent with the NAA
- Alt4 H3 DSM2 run with NAA SCG operations, and removing 65,000 acres restoration
- Alt4 H3 DSM2 run with NAA Head of Old River Barrier operations.

DSM2 sensitivity runs listed above were simulated at LLT conditions. NAA DSM2 run at LLT accounts for 45 cm sea level rise at the Golden Gate Bridge. Alt4 H3 DSM2 runs at LLT account for 65,000 acres of restoration in addition to the 45 cm sea level rise. Even though the sensitivity analyses were performed at LLT, the factors identified to explain modeled salinity exceedances at LLT are expected to be valid similarly at Early Long-term (ELT) conditions.

Threemile Slough vs Emmaton Compliance

As noted above, CALSIM II modeling of Alt4 H3 in the DEIRS assumed shifting the D-1641 salinity compliance at Emmaton to Threemile Slough. CALSIM II results for the sensitivity run, Alt4 H3 with the compliance location at Emmaton instead of Threemile Slough, show minor changes in the system operations with slightly more upstream releases, more Delta Outflow and less Delta Exports. Also, Delta exports are shifted by a small volume to the south Delta intakes. Figure 2 shows the average annual Delta exports by water year type for the Alt4 H3 with compliance at Threemile Slough as in DEIRS and at Emmaton. Overall, the differences are negligible with slight reduction in the below normal and dry years. The shift in compliance location was found to affect the compliance with D-1641 salinity standards in Sacramento River at Emmaton, San Joaquin River at San Andreas Landing, and San Joaquin River at Prisoner's Point.

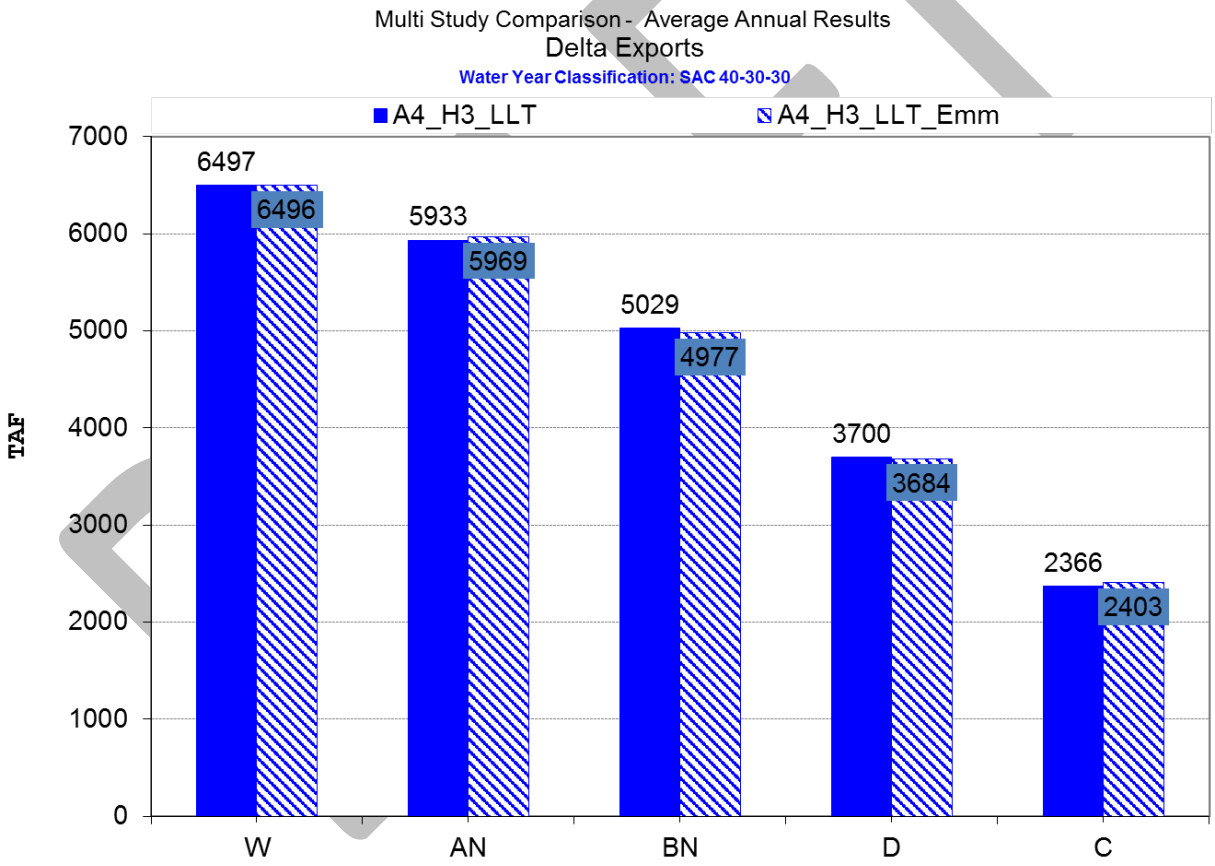

Figure 2: Comparison of Average Annual Delta Exports for Alternative 4 H3 with Compliance at Threemile Slough and at Emmaton.

Emmaton Exceedances

Table 1 compares the percentage of days with modeled Emmaton salinity exceeded the compliance standard under the DEIRS Existing Condition, NAA and Alt4 H3, with Alt 4 H3 sensitivity run with compliance at Emmaton instead of Threemile Slough. Top row shows the percentage of time Emmaton standard was exceeded when DSM2 inflow inputs are daily patterned as in the DEIRS, and the bottom row shows the same value when DSM2 inflows did not include daily patterning. The values in Table 1 show number of days

with modeled exceedance expressed as a percentage of days when Emmaton standard is active, which is 2192 days during WY 1976 - 1991. Overall, assuming the compliance location at Emmaton instead of Threemile Slough in the CALSIM II modeling allowed exceedances at Emmaton decrease from 28% to 15% under Alt4 H3, and brought the remaining exceedances a lot closer to the NAA, which has 13% exceedances. Daily patterning of the DSM2 inflow inputs had less influence on the exceedances.

TABLE 1
Emmaton Salinity Compliance Exceedances
Percentage of days exceeding compliance standard during WY 1976-1991 (2192 days)

DSM2 Inflow Assumption	BDCP DEIRS Alternatives			H3_LLT with compliance at Emmaton Sensitivity Run
	EX	NAA_LLT	H3_LLT	
with daily patterning	6%	14%	28%	16%
without daily patterning	4%	**13%**	28%	**15%**

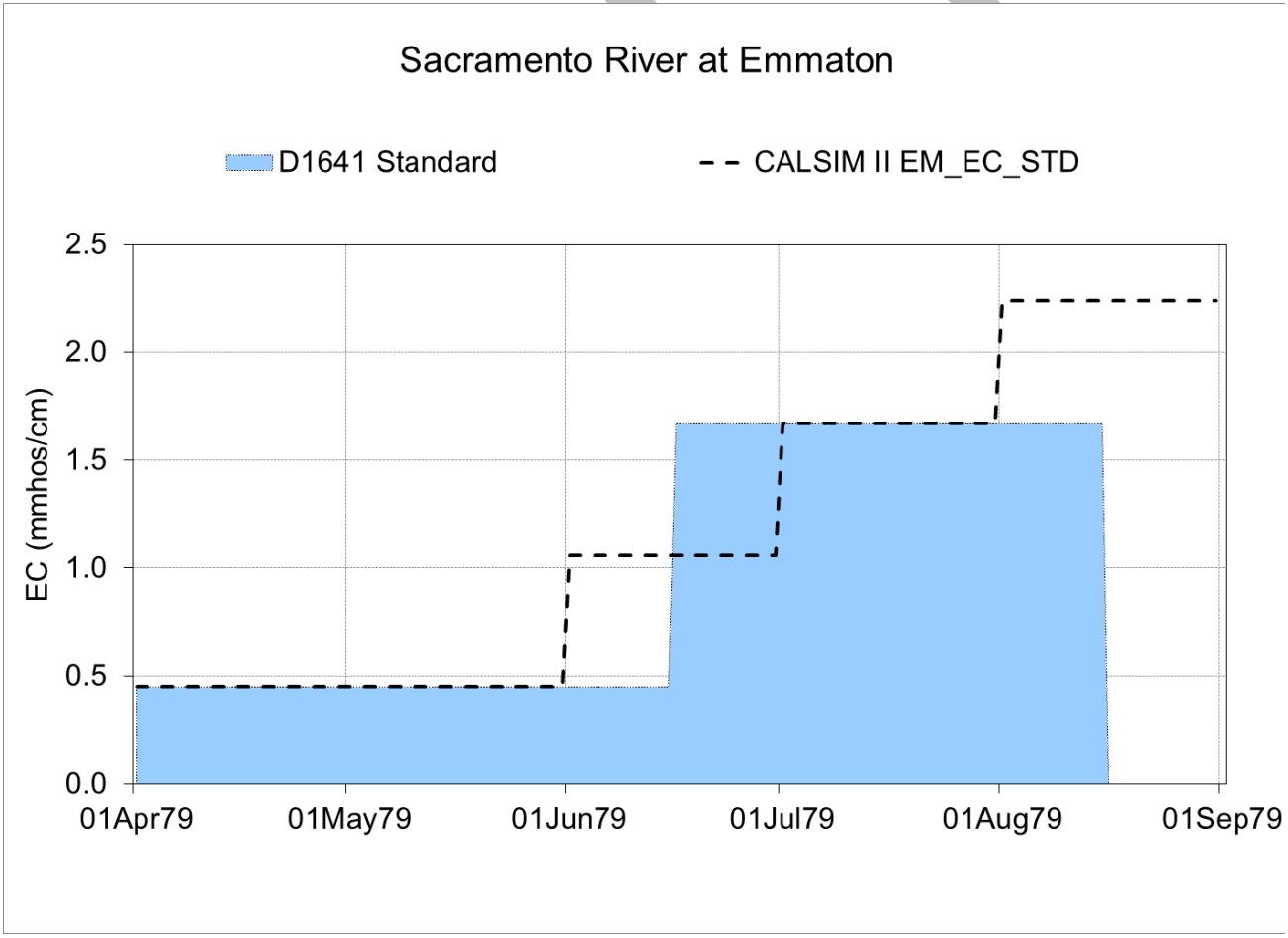

Figure 3: D-1641 Salinity Control Requirement at Emmaton as Simulated in CALSIM II

Remaining exceedances under NAA and Alt4 H3 are primarily a result of the CALSIM II limitations. Since CALSIM II is a model with a monthly time-step and a number of daily D-1641 standards are active during only portions of a month (ex: April 1 – June 20 and June 20 to August 15), D-1641 standards are calculated as a monthly weighted average. When the monthly weighted average standards calculated for CALSIM II are

less stringent than the daily D-1641 EC standards, CALSIM II adjusts SWP and CVP operations to release less flow to meet monthly weighted average EC standards instead of the flow needed to meet higher daily D-1641 EC standards. Figure 3 shows the difference between daily D-1641 EC standards and the monthly weighted average EC standards modeled in CALSIM II. Therefore, within the months where the salinity standard is transitioning, there may be days where DSM2 inflows are less than the required to comply with the salinity standard, and more than on other days. This results in a few days within such months where the modeled salinity is exceeding the compliance standard. However, in reality the CVP and SWP operations will be adjusted on day-to-day basis to meet the Delta standards. Figures 4 to 6 show examples of salinity exceedances during the months with transitions in the standards.

Table 2 summarizes the reasons for the remaining Sacramento River at Emmaton exceedances. As explained above, most of the remaining exceedances are a result of a transition in EC standards within a month and the inability of CALSIM II model to respond to a transitioning standard within a given month. In some months, unavailability of the flow to meet the salinity standards in the Delta when upstream storage is at deadpool conditions was a factor for the exceedances at Emmaton. Other months have exceedances that are insignificant (having only a few days of exceedances, surpassing the standard only by 0.7 mmhos/cm or less) when considering the uncertainty in the CALSIM II/DSM2 model accuracy. There are a few months where the Emmaton standard is exceeded under NAA, Alt4 H3, or both, and the reason for the exceedance is not fully clear. It may be due to the uncertainty in the CALSIM II's ANN to predict the amount of flow needed to meet the salinity requirement. Given that upstream storage in these months under NAA, Alt4 H3, or both is available, it is not unreasonable to assume that CVP and SWP operators would adjust the upstream releases to meet the salinity conditions in the Delta, based on the real time conditions.

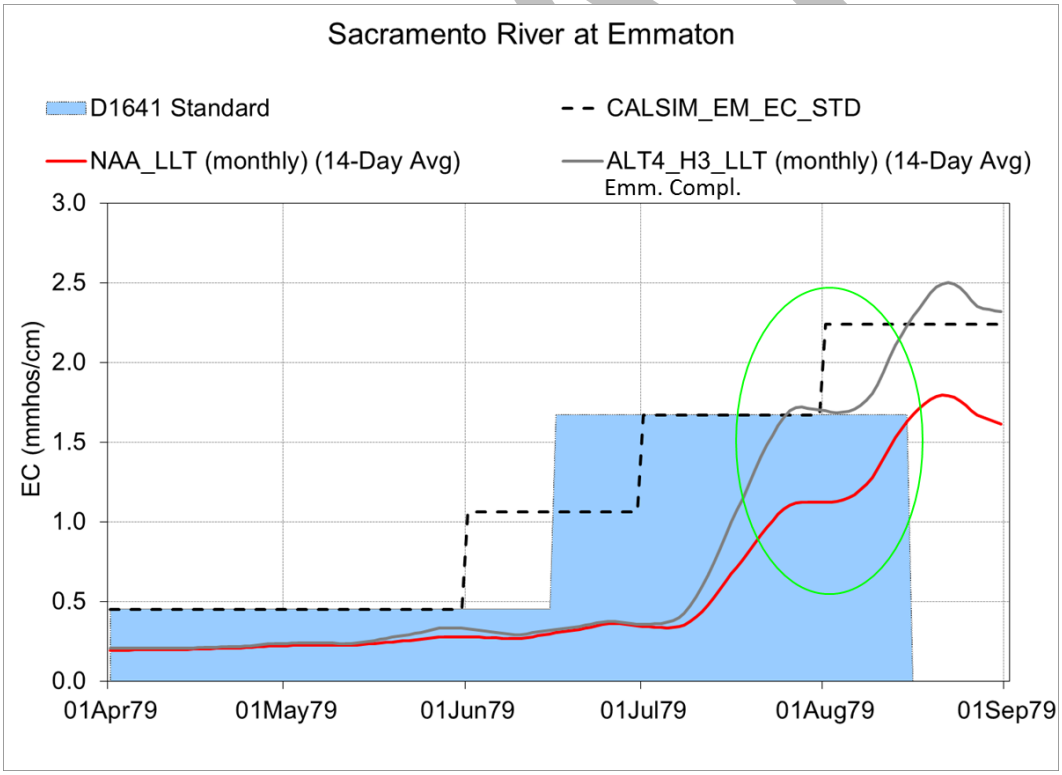

Figure 4: Simulated Salinity at Emmaton Compared to D-1641 Standard for Year 1979

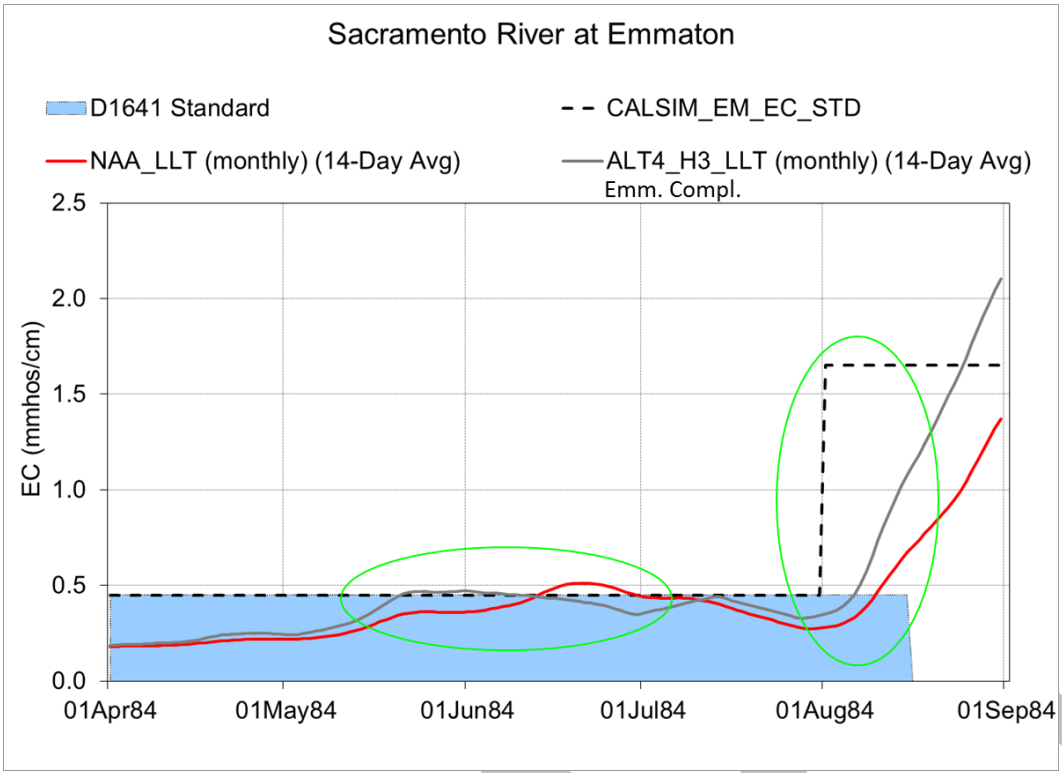

Figure 5: Simulated Salinity at Emmaton Compared to D-1641 Standard for Year 1984

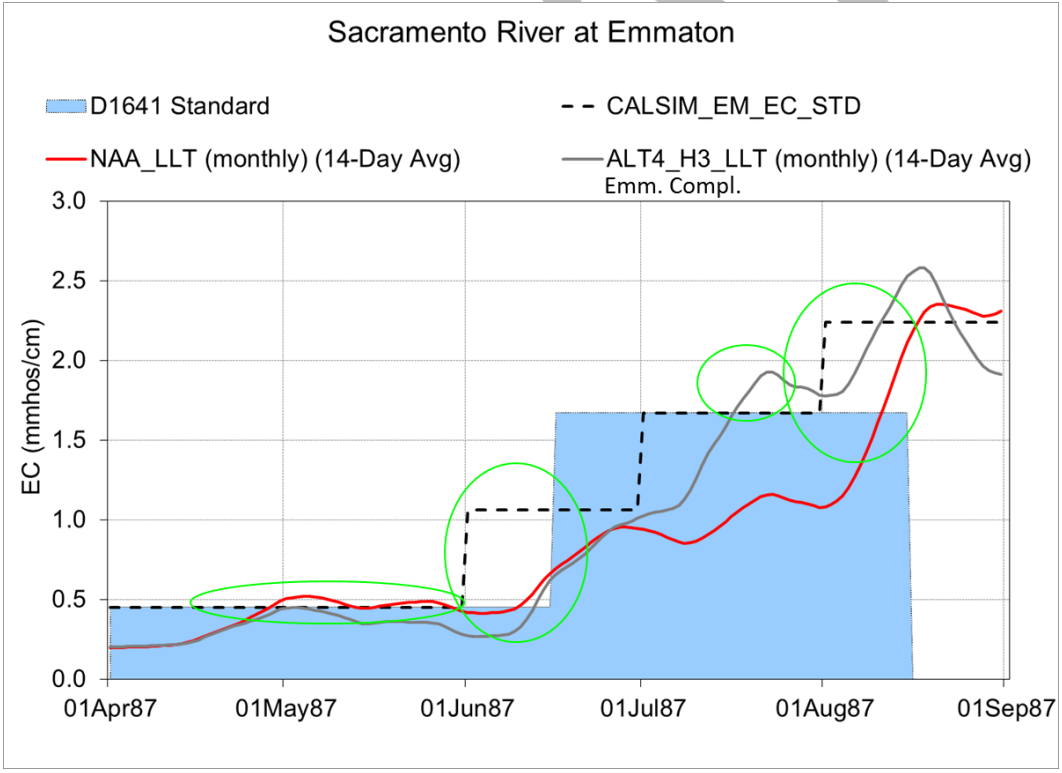

Figure 6: Simulated Salinity at Emmaton Compared to D-1641 Standard for Year 1987

TABLE 2
Emmaton Standard Exceedances
Modeled Monthly Performance under NAA_LLT and Alt 4 H3 (with Emmaton Compliance)

WY	WYT	Apr	May	Jun	Jul	Aug	Notes
1976	D	T		T	U	T	Alt4 H3 violation end of August
1977	C			d4, d8	d4, d8	d4, d8 T	d4, d8 for both NAA and Alt4 H3; T only for NAA
1978	AN					T	
1979	D				s (0.05)	T	s - 0.05 mmhos/cm (1.67)
1980	AN			T		T	few violations during transition at end of June
1981	D		T	T		d8, T	d8 for Alt4 H3 only; many violations during transition in mid-June for NAA, few for Alt4 H3
1982	W					T	
1983	W					T	
1984	W		s (0.02)	s (0.06)		T	s - 0.02 mmhos/cm (0.45 standard); s - 0.06 mmhos/cm (0.45)
1985	BN	s (0.04)		T			s - 0.04 mmhos/cm (0.45)
1986	W			U	U	T	
1987	D		s (0.07, 0.04)	T	U	T	s - 0.07 mmhos/cm (0.45) and s - 0.04 mmhos/cm (0.45) in May; few violations during transition in mid-June; Alt4 H3 violation end of Aug.
1988	C				U	U	Alt4 H3 violation end of Aug.
1989	D			T	U	U	few violations in transition in mid-June
1990	C			U	d4, d8		d4 and d8 for Alt4 H3 only
1991	C			U			

Notes: Grey – Alt4 H3 LLT (with compliance at Emmaton), Pink – NAA monthly, White – both scenarios, s – exceeds compliance by approximately 0.05 mmhos/cm or less, T – transition in EC standards, U – unresolved, d - deadpool at Shasta (4), Oroville (6), or Folsom (8)

San Andreas Landing Exceedances

San Andreas Landing had very few exceedances in the DEIRS modeling as shown in Table 3. Table 3 below shows number of days with modeled exceedances expressed as a percentage of days when the standard is active, which 2,192 days during WY1976 – 1991. Removing the daily patterning resolved the NAA exceedances completely, and reduced the Alt4 H3 exceedances by half. The small number of the remaining exceedances under Alt4 H3 are found to be small in magnitude and only during a few days in a month as shown in the Figures 7 and 8, and can be addressed in the real time operations.

TABLE 3
San Andreas Landing Salinity Compliance Exceedances
Percentage of days exceeding compliance standard during WY 1976-1991 (2192 days)

DSM2 Inflow Assumption	BDCP DEIRS Alternatives			H3_LLT with compliance at Emmaton Sensitivity Run
	EX	NAA_LLT	H3_LLT	
with daily patterning	1%	1%	6%	4%
without daily patterning	0%	**0%**	**3%**	2%

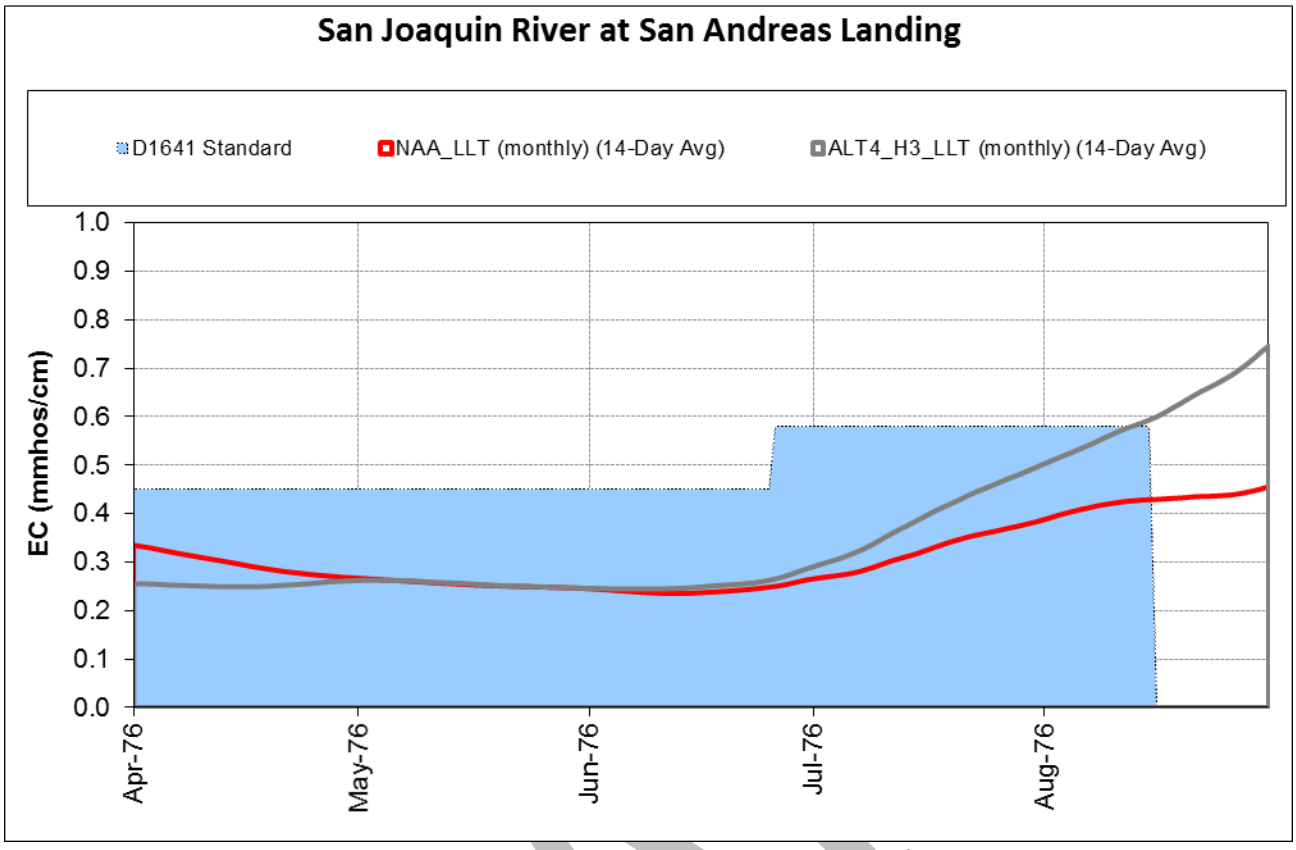

Figure 7: Simulated Salinity at San Andreas Landing Compared to D-1641 Standard for Year1976

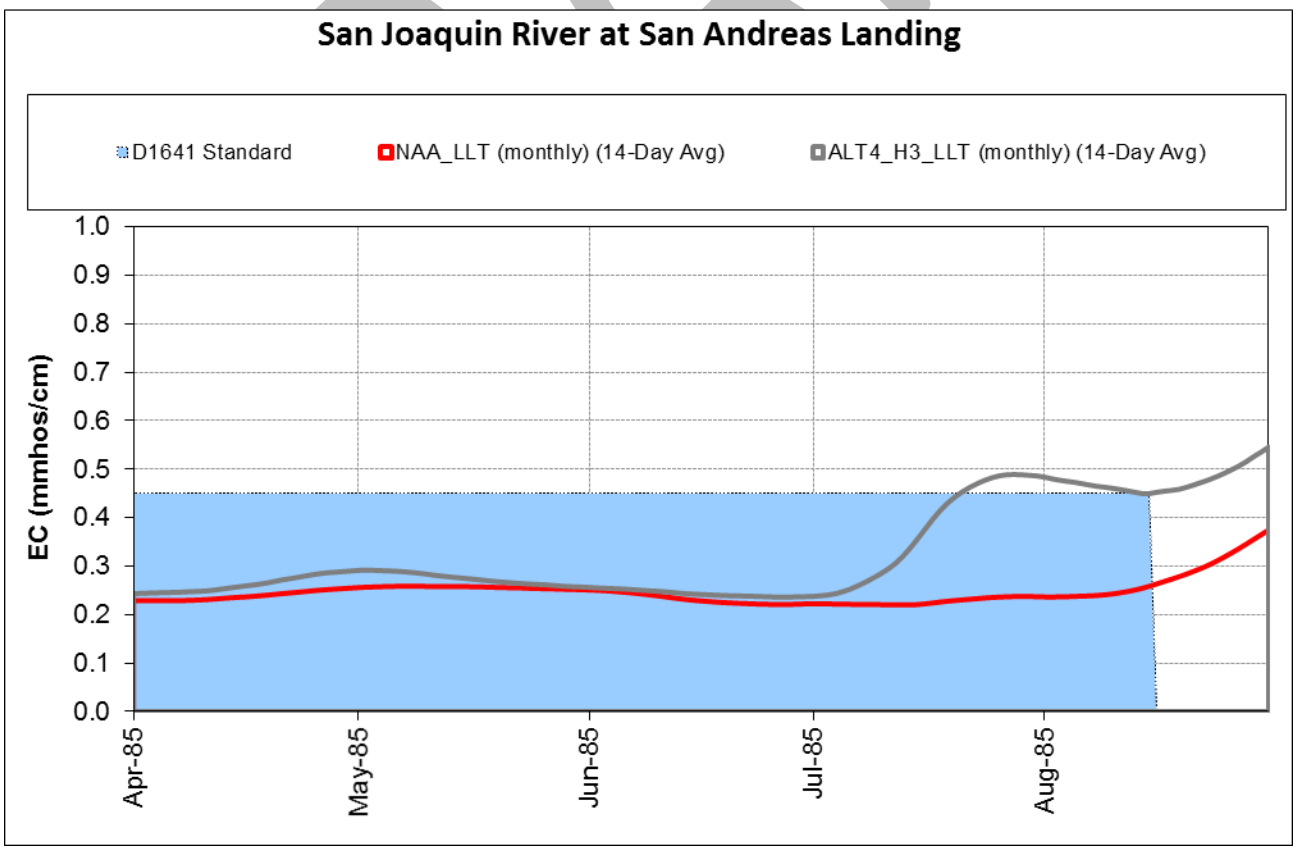

Figure 8: Simulated Salinity at San Andreas Landing Compared to D-1641 Standard for Year 1985 (BN)

Old River at Tracy Exceedances

Table 4 shows that removing daily patterning of the DSM2 inflows resolved some of the Old River at Tracy exceedances. Remaining exceedances under NAA and Alt4 H3 are mostly in the drier years, and during early summer months. These may be a result of the differences in the south Delta temporary barrier assumptions in the drier years, and may be resolved by modeling temporary barrier operations consistent with historical dry year practices of installing earlier in the year. The Old River at Tracy standard is active for 5,750 days during WY1976 – 1991. Table 4 below shows number of days with modeled exceedances expressed as a percentage of days when the standard is active.

TABLE 4
Old River at Tracy Exceedances
Percentage of days exceeding compliance standard during WY 1976-1991 (5750 days)

DSM2 Inflow Assumption	BDCP DEIRS Alternatives			H3_LLT with compliance at Emmaton Sensitivity Run
	EX	NAA_LLT	H3_LLT	
with daily patterning	4%	4%	6%	5%
without daily patterning	4%	4%	5%	5%

San Joaquin River at Prisoner's Point Exceedances

Prisoner's Point exceedances remained under all sensitivity analyses performed for Alt4 H3, even though exceedances are reduced when the restoration is removed. This is potentially due to the HORB assumption differences, and South Delta export differences between A4 H3 and NAA. The Prisoner's Point standard is active for 732 days during WY1976 – 1991. Table 5 below shows number of days with modeled exceedance expressed as a percentage of days when the standard is active for various sensitivity runs.

TABLE 5
San Joaquin River at Prisoner's Point Exceedances
Percentage of days exceeding compliance standard during WY 1976-1991 (732 days)

DSM2 Inflow Assumption	BDCP DEIRS Alternatives			H3_LLT with compliance at Emmaton Sensitivity Run	H3_LLT with SCG	H3_LLT with SCG and No Restoration	H3_LLT with HORB open in Apr-May
	EX	NAA_LLT	H3_LLT				
with daily patterning	5%	1%	22%	22%	-	-	-
without daily patterning	5%	0%	22%	22%	23%	13%	17%

Suisun Marsh Salinity

As shown in Figures 9 and 10, making the salinity control gate operations under Alt4 H3 to be consistent with NAA, Suisun Marsh salinity was found to be closer to NAA; however, still high during October through May. Removing the restoration under the Alt4 H3 resolved this, which suggests that restoration may be contributing the higher salinity under Alt4 H3, and refining the restoration footprints may help resolving this issue to an extent.

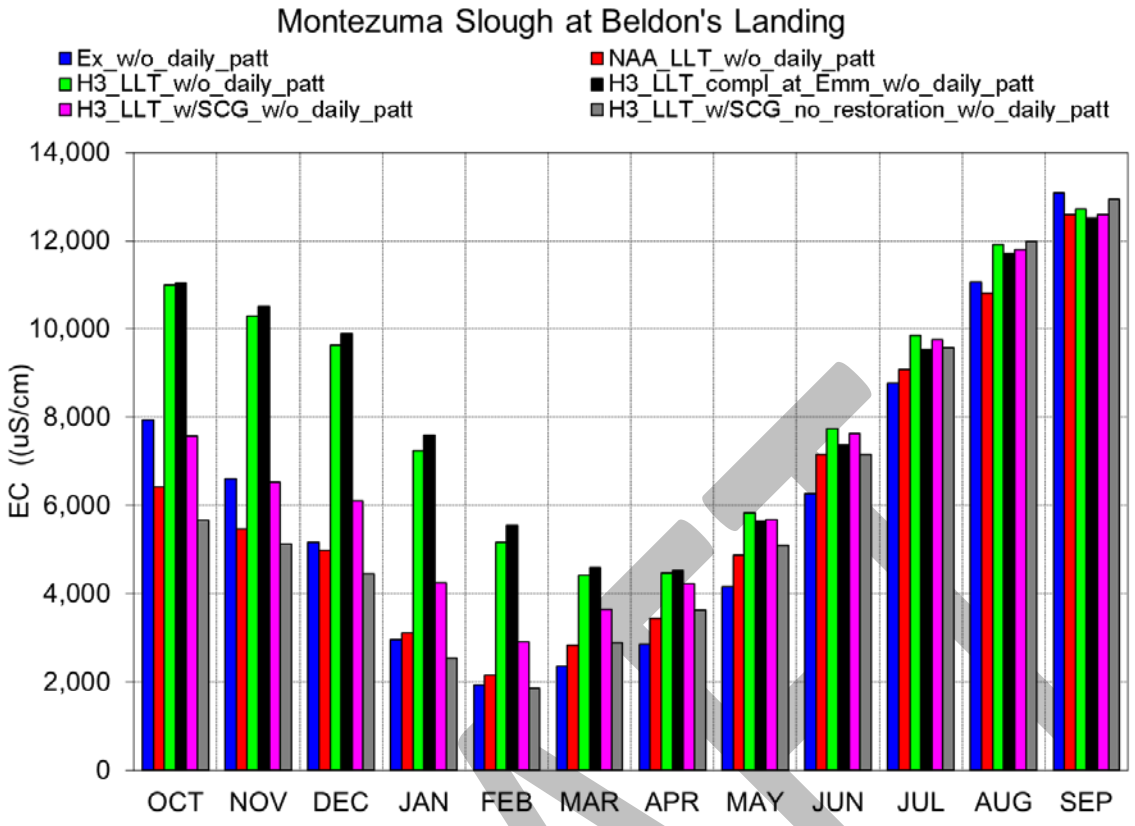

Figure 9: Modeled Monthly Average EC at Montezuma Slough at Beldon's Landing Averaged over WY 1976-1991

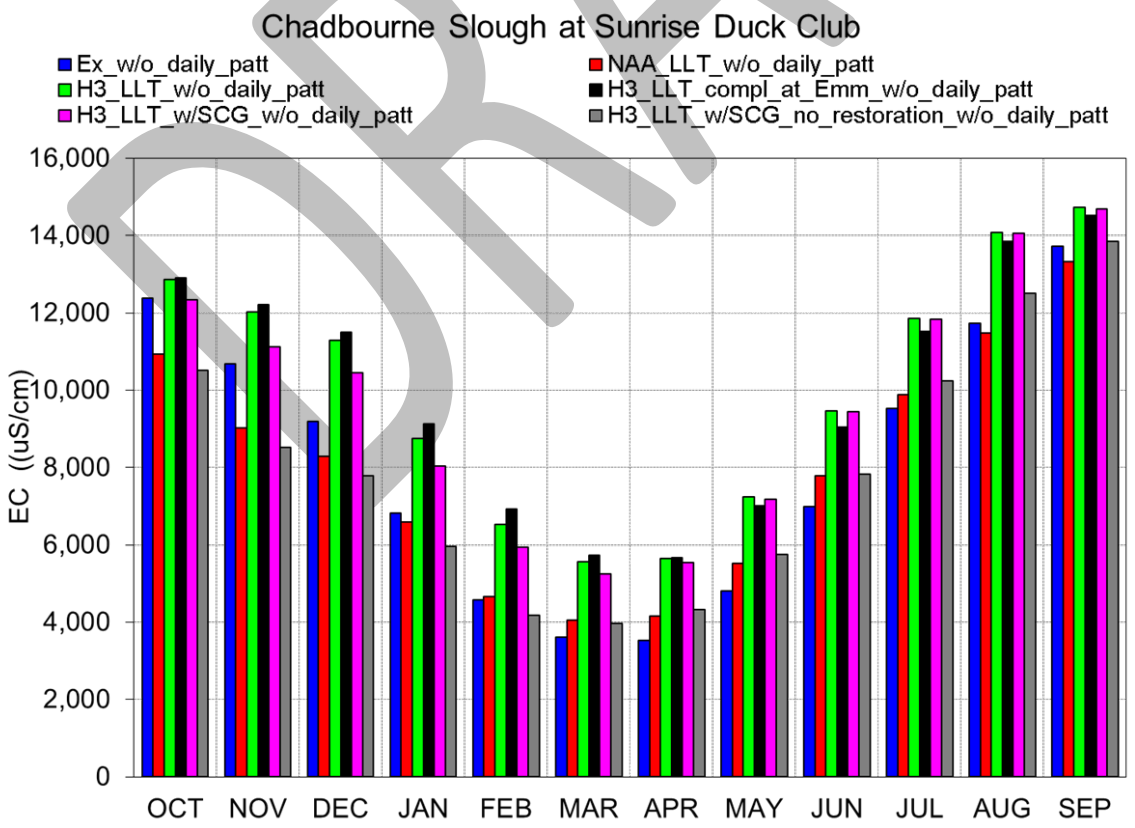

Figure 4 Modeled Monthly Average EC at Chadbourne Slough at Sunrise Duck Club Averaged over WY 1976-1991

Summary

Several sensitivity runs were modeled to determine if the reported salinity exceedances in the DEIRS are because of a limitation in the modeling tools. As explained above majority of the exceedances are because of the assumed operational criteria under DEIRS Alternatives. For example, modeled exceedances at Emmaton under Alt4 H3 are comparable to NAA, once the compliance location was assumed to be at Emmaton instead of Threemile Slough as assumed in the DEIRS. Another example is the Suisun Marsh Salinity Control Gate operations assumed under Alt4 H3 in the DEIRS. The sensitivity runs point to modeling limitations for the remaining exceedances. Even though the sensitivity analyses were performed at LLT, the factors identified in this analysis at LLT such as the modeling assumptions related to compliance at Emmaton, Montezuma salinity control gate operations etc,, would help explain the modeled salinity exceedances at ELT conditions.

Attachment 8H-2

Bay Delta Conservation Plan EIR/EIS
Water Quality Chapter

ROBERTSON - BRYAN, INC.
Solutions for Progress

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TECHNICAL MEMORANDUM

Date: December 10, 2015

To: Steve Centerwall, ICF International; Teresa Chan, ICF International; Cassandra Enos, DWR

From: Robertson-Bryan, Inc.

Project: Bay Delta Conservation Plan EIR/EIS Water Quality Chapter

Re: San Joaquin River Salinity Objective at and between Jersey Point and Prisoners Point

Introduction

The most recent version of the Bay-Delta Water Quality Control Plan (Bay-Delta Plan), adopted in 2006, contains a salinity objective for the San Joaquin River for the protection of striped bass spawning. The objective is 0.44 millimhos per centimeter electroconductivity (mmhos/cm EC) on the San Joaquin River at and between Jersey Point and Prisoners Point from April 1 through May 31 during all water year types except critical years, measured as a maximum 14-day running average of mean daily EC.

The purpose of this technical memorandum (TM) is to provide background information on the San Joaquin River salinity objective, as a means to provide context for Bay-Delta Conservation Plan (BDCP) EIR/EIS modeling results that show a greater number of exceedances of the San Joaquin River salinity objective occurring under the project alternatives than under the baseline conditions.

Modeled Exceedances

Modeling for the period of water year 1976 through 1991 determined that a greater number of exceedances of the San Joaquin River salinity objective would occur under Alternatives 2, 4 through 8, 4A, and 2D than under the baseline conditions. Depending on the Alternative, exceedances generally occurred in six out of the 16 years (1976, 1978, 1981, 1985, 1987, and 1989), all of which are categorized as dry years except for 1978, which was an above normal water year type. EC values during the exceedances ranged from 0.44 mmhos/cm (the standard) to 0.60 mmhos/cm. Exceedances occurred in April in all six years and in May all six years except 1978, the above normal water year type. The cause of the exceedances appears related to an increase in San Joaquin River flow due to Head of Old River barrier operations and/or less south Delta diversions – Alternatives 1 and 3 have more south Delta exports due to I/E ratio differences.

History and Background of the San Joaquin River Salinity Objective

The origin of the San Joaquin River salinity objective, as shown above, goes back to the late 1960's when the State Water Resources Control Board (SWRCB) began to recognize that the State and federal water projects were likely impacting biological resources in the Sacramento-San Joaquin Delta (Delta). To mitigate these impacts the SWRCB adopted various water quality objectives and standards, including the San Joaquin River salinity objective, which were intended to ensure the continued viability of aquatic resources in the Delta. The

San Joaquin River salinity objective was specifically adopted to protect striped bass and was modified several times from its initial adoption in 1967 through 1995.

On June 14, 1967 the SWRCB adopted Supplemental Water Quality Control Policy 68-17 (Policy 68-17). Policy 68-17 contained the following water quality objective, which used chloride as the indicator of salinity and was primarily for the protection of neomysis, an important prey species for striped bass: At Jersey Point in the San Joaquin River and at Emmaton in the Sacramento River, an average mean daily chloride content of 200 parts per million or less for a period of at least 10 consecutive days each year during the period April 1 through May 31, except in dry and critical years.

On July 28, 1971 the SWRCB adopted Water Right Decision 1379, which included the first standard specifically for the protection of striped bass spawning. The standard was: for five weeks after the water temperature at Antioch reaches 60° F the mean daily salinities in the San Joaquin River at the Antioch Water Works Intake and at Prisoners Point shall not exceed 1.5 mmhos/cm EC and 0.55 mmhos/cm EC, (approximately 1,000 and 350 mg/l TDS, respectively).

On August 16, 1978 the SWRCB adopted both the 1978 Delta Plan and Water Rights Decision 1485 (D-1485). The 1978 Delta Plan included water quality objectives intended to protect municipal and industrial, agricultural, and fish and wildlife beneficial uses in the Delta, and fish and wildlife beneficial uses in Suisun Marsh. D-1485 was adopted as the primary means to implement the 1978 Delta Plan. Both the 1978 Delta Plan and D-1485 were specifically intended to provide water quality standards in the Delta that resulted in water quality as good as the levels which would have been available had the State and federal water projects not been constructed. The San Joaquin River salinity objective included in D-1485 was designed to maintain the Striped Bass Index (CDFW's monitoring based index which was and continues to be the primary means of evaluating the overall condition of striped bass over time) at a long-term average equivalent to the so-called "without project condition." Specifically for the protection of striped bass spawning, D-1485 established a salinity objective of 0.55 mmhos/cm EC at Prisoners Point on the San Joaquin River. The objective was measured as the average of mean daily EC for the period April 1 through May 5, and was applicable in all water year types.

On May 1, 1991 the SWRCB adopted the 1991 Bay-Delta Plan. In recognition that striped bass populations were continuing to decline and previous salinity objectives were not achieving their intended and expected results the 1991 Bay-Delta Plan revised the San Joaquin River salinity objective to 0.44 mmhos/cm EC at Prisoners Point from April 1 through May 31 (or until spawning has ended) during all water year types, measured as a maximum 14-day running average of mean daily EC. This revision reduced the salinity concentration and extended the compliance period as compared to the 1978 plan.

On May 20, 1995 the SWRCB adopted the 1995 Bay-Delta Plan, which again altered the San Joaquin River salinity objective. Revisions included alteration of: 1) the compliance location, which was expanded from the San Joaquin River at Prisoners Point to the San Joaquin River at and between Jersey Point and Prisoners Point, 2) the water year types, which eliminated compliance of the objective during critical water year types, and 3) the compliance period, which eliminated the "or until spawning has ended" language.

The 2006 Bay-Delta Plan did not include any revisions to the San Joaquin River salinity objective. The SWRCB is currently working towards a substantial update and modification of the Bay-Delta Plan; however, there does not appear to be any discussion of altering the San Joaquin River salinity objective. Therefore, the current version of the San Joaquin River salinity objective has remained unchanged since 1995 and there appears to be low probability that the SWRCB will alter it in the near future.

Striped Bass in the Delta

Striped bass (*Morone saxatilis*) is an introduced (i.e., non-native) species in California that was first planted in the Delta in 1879 (Moyle 2002). Shelby (1917) called the successful introduction of striped bass on the West Coast of California "one of the greatest feats of acclimation of new species of fish in the history of fishculture..." Striped bass populations were strong from their introduction into the Delta in the late 1800s through the early and mid 1900s, as evidenced by the species supporting important commercial (late 1800s and early 1900s) and recreational fisheries (mid 1900s) (Chadwick 1968). However, by the end of the 1970's the Bay-Delta striped bass population began a period of steep decline, which has continued despite increased scrutiny and evolving protection measures aimed at striped bass.

Current striped bass population estimates continue to be at historically low levels. The 2014 striped bass total index was 0.3 (combined Delta and Suisun Marsh indexes), which is equal to the lowest on record, dating back to 1959 when the index was first compiled. As a point of reference, the water quality objectives of D-1485 were designed to maintain the striped bass index at a long-term average of 79.

Striped Bass Spawning in the Delta

Striped bass are an anadromous fish that spends the majority of its life in saltwater, returning to freshwater to spawn. While in saltwater, the Bay-Delta striped bass population is concentrated in San Pablo Bay, San Francisco Bay, and the Pacific Ocean (Moyle 2002). Spawning occurs in the spring, peaking between May and early June but can begin as early as April (Moyle 2002). Historically, the majority of spawning occurred in two main areas, the Sacramento River between Isleton and Butte City and the San Joaquin River between Antioch and Venice Island (Farley 1966); however, specific locations are dictated on an annual basis dependant on water temperature, river flow, and salinity (Moyle 2002). Approximately one-half to two-thirds of striped bass spawning occurs in the Sacramento River system, while the remainder spawn in the Delta and the lower San Joaquin River below Vernalis (BDOC 1993). Important spawning areas in the San Joaquin River include the area between Antioch Bridge and the mouth of Middle River (BDOC 1993). Successful spawning in the San Joaquin River upstream of the Delta occurs mainly during years of high flow, when runoff dilutes the irrigation water that makes up most of the river's flow (Moyle 2002).

Striped bass spawn in freshwater; consequently, salinity is an important factor in where they spawn. Therefore, the reach of the San Joaquin River between the Prisoners Point (i.e., Venice Island) and Jersey Island (near the Antioch Bridge) is considered an important spawning area for striped bass. The area downstream of the Prisoners Point has reduced salinity due to fresh water from the Sacramento and Mokelumne rivers diluting the saltier San Joaquin River and the area upstream of the Antioch Bridge is typically less impacted by salt water intrusion.

Several research studies have evaluated the impacts of salinity on striped bass spawning in the Delta. Radke and Turner (1967) determined that in 1966 striped bass did not migrate through salinities in the eastern Delta when EC exceeded 0.55 mmhos/cm (likely the basis for the standard included in Water Right 1379). The IEP (1987), using historical striped bass spawning surveys, determined that the majority of spawning occurred where EC was less than 0.30 mmhos/cm. In several of the drier years (i.e., 1968, 1972, 1976, and 1977), when salinity intruded into the Delta, striped bass spawning shifted upstream, but not necessarily high enough to avoid higher salinities, as evidenced by the fact that about 25% of spawning occurred in salinities between 1.5 and 1.8 mmhos/cm in 1972 and between 3.0 and 6.0 mmhos/cm in 1977 (IEP 1987). Because there are likely dry year impacts to striped bass other than those attributable to increased salinity (e.g., altered hydrology, increased entrainment, impacts to food web productivity), the extent to which age 0+ striped bass

were affected by the increased salinity is not known, however, it is worth noting that the results of the striped bass index in 1972 and 1977 were the lowest recorded at the time of each survey, respectively. Turner (1976) assessed striped bass spawning in the Sacramento and San Joaquin rivers from 1963 to 1973 and concluded that in the Delta, striped bass generally spawn where the water is very fresh (<200 mg/l TDS (approximately 0.31 mmhos/cm EC)). Turner went on to state that "at least in the short run though, water that fresh is not that essential, as spawning occurred in approximately the same location in 1968 and 1972, despite ocean derived salinities reaching 1,500 mg/l TDS" (approximately 2.3 mmhos/cm EC). Turner concluded that "while salinity within the ranges discussed above (i.e., 0.31 to 2.3 mmhos/cm EC) apparently does not increase egg mortality and has at most a limited short term effect on the location of spawning, the longer term effect of such salinities is uncertain. Striped bass have a pronounced tendency to return to the same spawning area each year, and thus might respond little to occasional less than optimum salinity conditions. Yet, regular occurrence of the same salinity could reduce spawning in the area gradually, due to accumulative effects of either small differences in survival or migratory preferences."

In addition to the field studies discussed above, laboratory studies have been conducted to determine potential impacts of increased salinity on striped bass egg and larvae survival. Turner and Farley (1971) indicated that ECs up to 1.5 mmhos/cm do not adversely affect egg survival. Fay et al. (1983) in a literature review of tolerance and optimal values on striped bass concluded that striped bass eggs tolerate salinity ranging from 0 to 15.6 mmhos/cm EC with optimal salinity ranging from 2.3 to 4.7 mmhos/cm EC. Fay et al. (1983) also concluded that striped bass larval stages tolerate salinity ranging from 0 to 23.4 mmhos/cm EC with optimum salinity ranging from 5.3 to 52.7 mmhos/cm EC.

Conclusions

Based on the conclusions of Turner (1976) and IEP (1987), higher salinities in the San Joaquin River at and between Jersey Point and Prisoners Point, as modeled for Alternatives 2 and 4–8, have the potential to affect the location of where striped bass spawn. However, the significance of a shift in the location of where striped bass spawn is difficult to evaluate and further research on potential impacts may be necessary to fully understand how exceedances of the San Joaquin River salinity objective could affect striped bass populations.

References

BDOC. 1993. Draft Briefing Paper on Introduced Fish, Wildlife, and Plants in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. Bay-Delta Oversight Council, Calif. Resources Agency, Sacramento, 33 pp.

Chadwick, H. K. 1968. Mortality rates in the California striped bass population. California Fish Game 54(4):228-246.

Farley, T. C. 1966. Striped bass, Roccus saxatilis, spawning in the Sacramento-San Joaquin River systems during 1963 and 1964. Calif. Fish Game, Fish. Bull. 136: 28-43.

Fay, C. W., R. J. Neves, and G. B. Pardue. 1983. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (mid-Atlantic): striped bass. U.S. Fish and Wildlife Service Biological Services Program FWS/OBS 82(11.8). 36 pp.

Interagency Ecological Program. 1987. Factors affecting striped bass abundance in the Sacramento-San Joaquin River system. Technical Report 20.

Moyle, P. B. 2002. Inland Fishes of California, Second edition. Berkeley, CA: University of California Press.

Radtke, L. D., and J. L. Turner. 1967. High concentrations of total dissolved solids block spawning migration of striped bass (*Roccus saxatilis*) in the San Joaquin River, California. Trans. Am. Fish. Soc. 96(4):405-407.

Shelby, W. H. 1917. History of the Introduction of Food and Game Fishes into the Waters of California. California Fish and Game, 3:3-12.

Turner, Jerry L. 1976. Striped Bass Spawning in the Sacramento and San Joaquin Rivers in Central California from 1963 to 1972. California Fish and Game, 62(2):106-118.

Turner, Jerry L., and Timothy C. Farley. 1971. Effects of temperature, salinity, and dissolve oxygen on the survival of striped bass eggs and larvae. California Fish Came, 57(4):268-273.