

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. Tables to support the assessment are provided below.

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. Water quality modeling using CALSIM II and DSM2 for BDCP alternatives adjusts SWP and CVP operations to fully comply with D-1641 standards. CALSIM II is a model with a monthly time-step, whereas a number of D-1641 standards are described in shorter

1 ~~time-steps. The DSM2 model is used to refine CALSIM II simulation results for a shorter 15-minute~~
2 ~~time step, and to account for other localized model assumptions (e.g., tide) and more Delta-specific~~
3 ~~assumptions. This variation in time step can create an unintended consequence of CALSIM II~~
4 ~~correctly adjusting modeled reservoir releases and exports in order to maintain compliance over a~~
5 ~~monthly average, while DSM2 potentially reporting an exceedance over part of the month based~~
6 ~~upon those same reservoir releases and exports. Therefore, DSM2 results may show an exceedance~~
7 ~~of D-1641 standards when, in these cases, this is a modeling anomaly and not reflective of an actual~~
8 ~~violation.~~

9 ~~It should be noted that many of the modeling results showing exceedance of D-1641 standards~~
10 ~~reported in Appendix 8H are the result of this mismatch in modeling time step, known shortcomings~~
11 ~~in the ANN model to mirror DSM2 modeled flow-salinity interaction, and/or CALSIM II model's~~
12 ~~limited ability to simulate real-time operational adjustments to avoid exceedance of the standards in~~
13 ~~shorter time-steps. DWR and USBR have every intention of operating SWP and CVP facilities by fine~~
14 ~~tuning reservoir storage and exports in real time to meet D-1641 standards, and any changes to D-~~
15 ~~1641 as adopted by the SWRCB. Actual operations are continuously adjusted to respond to reservoir~~
16 ~~storages, river flows, exports, in-Delta demands, tides, and other factors to insure compliance to~~
17 ~~regulatory requirements to the extent possible.~~

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

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

28 **8H.3 Electrical Conductivity Modeling Results and** 29 **Compliance Assessment Tables** 30

1 **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	297258	5444	6	1412	22	233	540485	160148	11	2522	77
Sacramento River at Emmaton (AGR)	2,176	120	297258	668591	6	1412	3127	233	540485	977849	11	2522	4539
San Joaquin River at Jersey Point (AGR)	2,176	415	299230	319257	19	1411	1512	623	566464	514426	29	2621	2420
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	0	00	00	0	00	00	0	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	1313	7349	1	11	32	27	2626	138101	1	11	65
San Joaquin River at Vernalis (AGR)	5,842	163	154154	154154	3	33	33	424	415415	415415	7	77	77
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183183	193193	3	33	33	449	444444	483483	8	88	88
Old River near Middle River (AGR)	5,842	183	177177	178178	3	33	33	444	438438	439439	8	77	88
Old River at Tracy Bridge (AGR)	5,842	250	206206	211211	4	44	44	569	467467	472472	10	88	88
San Joaquin River at Jersey Point (F&W)	671	0	210	210	0	30	30	0	210	210	0	30	30
San Joaquin River at Prisoners Point (F&W)	671	38	1010	1717	6	11	23	64	1010	1717	10	11	23

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.

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1 **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	297 258	38 38	6	14 12	2 2	233	540 485	142 142	11	25 22	7 7
Sacramento River at Emmaton (AGR)	2,176	120	297 258	567 491	6	14 12	26 23	233	540 485	868 761	11	25 22	40 35
San Joaquin River at Jersey Point (AGR)	2,176	415	299 230	377 322	19	14 11	17 15	623	566 464	598 524	29	26 21	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
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13 13	105 78	1	1 1	5 4	27	26 26	174 134	1	1 1	8 6
San Joaquin River at Vernalis (AGR)	5,842	163	154 154	154 154	3	3 3	3 3	424	415 415	415 415	7	7 7	7 7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183 183	177 177	3	3 3	3 3	449	444 444	438 438	8	8 8	7 7
Old River near Middle River (AGR)	5,842	183	177 177	184 184	3	3 3	3 3	444	438 438	445 445	8	7 7	8 8
Old River at Tracy Bridge (AGR)	5,842	250	206 206	330 330	4	4 4	6 6	569	467 467	678 678	10	8 8	12 12
San Joaquin River at Jersey Point (F&W)	671	0	2 10	1 10	0	3 0	1 0	0	2 10	1 10	0	3 0	2 0
San Joaquin River at Prisoners Point (F&W)	671	38	10 10	185 167	6	1 1	25 25	64	10 10	210 179	10	1 1	29 27

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.

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1 **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	297 258	5342	6	14 12	22	233	540 485	159 146	11	25 22	7 7
Sacramento River at Emmaton (AGR)	2,176	120	297 258	663 583	6	14 12	30 27	233	540 485	951 840	11	25 22	44 39
San Joaquin River at Jersey Point (AGR)	2,176	415	299 230	328 264	19	14 11	15 12	623	566 464	536 456	29	26 21	25 21
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
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13 13	77 53	1	1 1	4 2	27	26 26	129 92	1	1 1	6 4
San Joaquin River at Vernalis (AGR)	5,842	163	154 154	154 154	3	3 3	3 3	424	415 415	415 415	7	7 7	7 7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183 183	181 181	3	3 3	3 3	449	444 444	442 442	8	8 8	8 8
Old River near Middle River (AGR)	5,842	183	177 177	178 178	3	3 3	3 3	444	438 438	439 439	8	7 7	8 8
Old River at Tracy Bridge (AGR)	5,842	250	206 206	210 210	4	4 4	4 4	569	467 467	471 471	10	8 8	8 8
San Joaquin River at Jersey Point (F&W)	671	0	2 10	2 10	0	3 0	3 0	0	2 10	2 10	0	3 0	3 0
San Joaquin River at Prisoners Point (F&W)	671	38	10 10	16 16	6	1 1	2 2	64	10 10	16 16	10	1 1	2 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.

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1 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 / Three Mile Slough nr. Sacramento River (AGR) ^d	2,176	120	29725 8	3737	5756	3233	5753	6	1412	22	33	12	32	233	54048 5	15415 4	18717 3	13613 7	18715 7	11	2522	77	98	66	97
Sacramento River at Emmaton (AGR)	2,176	120	29725 8	58750 8	62654 6	60150 7	62755 3	6	1412	2723	2925	2823	2925	233	54048 5	87676 6	93581 3	92379 1	93082 2	11	2522	4035	4337	4236	4338
San Joaquin River at Jersey Point (AGR)	2,176	415	29923 0	41135 4	33628 9	38032 7	30624 7	19	1411	1916	1513	1715	1411	623	56646 4	63856 2	53147 1	59452 2	52042 9	29	2621	2926	2422	2724	2420
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	00	00	00	0	00	00	00	00	00	0	00	00	00	00	00	0	00	00	00	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	1313	11692	7070	12195	5555	1	11	54	33	64	33	27	2626	19415 7	13513 5	19916 0	10710 7	1	11	97	66	97	55
San Joaquin River at Vernalis (AGR)	5,842	163	15415 4	15415 4	15315 3	15415 4	15315 3	3	33	33	33	33	33	424	41541 5	41541 5	41441 4	41541 5	41441 4	7	77	77	77	77	77
San Joaquin River at Brandt Bridge (AGR)	5,842	188	18318 3	17717 7	17617 6	17717 7	17617 6	3	33	33	33	33	33	449	44444 4	43843 8	43743 7	43843 8	43743 7	8	88	77	77	77	77
Old River near Middle River (AGR)	5,842	183	17717 7	18418 4	18418 4	18418 4	18418 4	3	33	33	33	33	33	444	43843 8	44544 5	44544 5	44544 5	44544 5	8	77	88	88	88	88
Old River at Tracy Bridge (AGR)	5,842	250	20620 6	32732 7	31731 7	33533 5	32032 0	4	44	66	55	66	55	569	46746 7	67567 5	63663 6	68368 3	63963 9	10	88	1212	1111	1212	1111
San Joaquin River at Jersey Point (F&W)	671	0	210	110	00	100	100	0	30	20	00	10	10	0	210	160	00	150	150	0	30	20	00	20	20
San Joaquin River at Prisoners Point (F&W)	671	38	1010	15513 6	22520 6	16114 3	22520 7	6	11	2120	3131	2221	3131	64	1010	18114 9	23820 6	20016 9	23820 7	10	11	2522	3331	2725	3331

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.

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1 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	297 258	5347	6	141 2	22	233	540 485	169 134	11	25 22	86
Sacramento River at Emmaton (AGR)	2,176	120	297 258	545 491	6	141 2	25 23	233	540 485	825 765	11	25 22	38 35
San Joaquin River at Jersey Point (AGR)	2,176	415	299 230	429 345	19	141 1	20 16	623	566 464	647 524	29	26 21	30 24
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	0	00	00	0	00	00	0	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	131 3	100 96	1	14	54	27	26 26	186 161	1	14	97
San Joaquin River at Vernalis (AGR)	5,842	163	154 154	154 154	3	33	33	424	415 415	415 415	7	77	77
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183 183	182 182	3	33	33	449	444 444	443 443	8	88	88
Old River near Middle River (AGR)	5,842	183	177 177	178 178	3	33	33	444	438 438	439 439	8	77	88
Old River at Tracy Bridge (AGR)	5,842	250	206 206	263 263	4	44	55	569	467 467	611 611	10	88	104 0
San Joaquin River at Jersey Point (F&W)	671	0	210	200	0	30	30	0	210	200	0	30	30
San Joaquin River at Prisoners Point (F&W)	671	38	101 0	59 59	6	14	89	64	101 0	85 85	10	14	121 3

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.

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1 **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	297258	6351	6	1412	32	233	540485	154103	11	2522	75
Sacramento River at Emmaton (AGR)	2,176	120	297258	691608	6	1412	3228	233	540485	955864	11	2522	4440
San Joaquin River at Jersey Point (AGR)	2,176	415	299230	6322	19	1411	31	623	566464	15461	29	2621	73
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	0	00	00	0	00	00	0	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	1313	00	1	11	00	27	2626	00	1	11	00
San Joaquin River at Vernalis (AGR)	5,842	163	154154	153153	3	33	33	424	415415	414414	7	77	77
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183183	179179	3	33	33	449	444444	440440	8	88	88
Old River near Middle River (AGR)	5,842	183	177177	177177	3	33	33	444	438438	438438	8	77	77
Old River at Tracy Bridge (AGR)	5,842	250	206206	218218	4	44	44	569	467467	479479	10	88	88
San Joaquin River at Jersey Point (F&W)	671	0	210	2323	0	30	33	0	210	3636	0	30	55
San Joaquin River at Prisoners Point (F&W)	671	38	1010	292231	6	11	4034	64	1010	292231	10	11	4034

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.

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1 **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	297258	4845	6	1412	22	233	540485	152136	11	2522	76
Sacramento River at Emmaton (AGR)	2,176	120	297258	412355	6	1412	1916	233	540485	631562	11	2522	2926
San Joaquin River at Jersey Point (AGR)	2,176	415	299230	372313	19	1411	1714	623	566464	593508	29	2621	2723
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	0	00	00	0	00	00	0	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	1313	8075	1	11	43	27	2626	145127	1	11	76
San Joaquin River at Vernalis (AGR)	5,842	163	154154	155155	3	33	33	424	415415	445445	7	77	88
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183183	207207	3	33	44	449	444444	497497	8	88	99
Old River near Middle River (AGR)	5,842	183	177177	178178	3	33	33	444	438438	439439	8	77	88
Old River at Tracy Bridge (AGR)	5,842	250	206206	219219	4	44	44	569	467467	480480	10	88	88
San Joaquin River at Jersey Point (F&W)	671	0	210	00	0	30	00	0	210	00	0	30	00
San Joaquin River at Prisoners Point (F&W)	671	38	1010	294233	6	11	4035	64	1010	294233	10	11	4035

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.

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1 **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	297258	5959	6	1412	33	233	540485	159159	11	2522	77
Sacramento River at Emmaton (AGR)	2,176	120	297258	472395	6	1412	2218	233	540485	732603	11	2522	3428
San Joaquin River at Jersey Point (AGR)	2,176	415	299230	175157	19	1411	87	623	566464	383339	29	2621	1816
S. Fork Mokelumne River at Terminous (AGR)	2,176	0	00	00	0	00	00	0	00	00	0	00	00
San Joaquin River at San Andreas Landing (AGR)	2,176	14	1313	81	1	11	00	27	2626	3414	1	11	21
San Joaquin River at Vernalis (AGR)	5,842	163	154154	173173	3	33	33	424	415415	463463	7	77	88
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183183	208208	3	33	44	449	444444	527527	8	88	99
Old River near Middle River (AGR)	5,842	183	177177	195195	3	33	33	444	438438	485485	8	77	88
Old River at Tracy Bridge (AGR)	5,842	250	206206	229229	4	44	44	569	467467	519519	10	88	99
San Joaquin River at Jersey Point (F&W)	671	0	210	00	0	30	00	0	210	00	0	30	00
San Joaquin River at Prisoners Point (F&W)	671	38	1010	279218	6	11	3832	64	1010	279218	10	11	3832

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.

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1 **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	297 258	116 114	6	14 12	5 5	233	540 485	233 244	11	25 22	11 11
Sacramento River at Emmaton (AGR)	2,176	120	297 258	381 362	6	14 12	18 17	233	540 485	675 617	11	25 22	31 28
San Joaquin River at Jersey Point (AGR)	2,176	415	299 230	95 78	19	14 11	4 4	623	566 464	160 143	29	26 21	7 7
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
San Joaquin River at San Andreas Landing (AGR)	2,176	14	13 13	18 24	1	1 1	1 1	27	26 26	31 50	1	1 1	1 2
San Joaquin River at Vernalis (AGR)	5,842	163	154 154	153 153	3	3 3	3 3	424	415 415	414 414	7	7 7	7 7
San Joaquin River at Brandt Bridge (AGR)	5,842	188	183 183	16 16	3	3 3	0 0	449	444 444	45 45	8	8 8	1 1
Old River near Middle River (AGR)	5,842	183	177 177	130 130	3	3 3	2 2	444	438 438	391 391	8	7 7	7 7
Old River at Tracy Bridge (AGR)	5,842	250	206 206	148 148	4	4 4	3 3	569	467 467	409 409	10	8 8	7 7
San Joaquin River at Jersey Point (F&W)	671	0	21 0	18 0	0	3 0	2 0	0	21 0	18 0	0	3 0	2 0
San Joaquin River at Prisoners Point (F&W)	671	38	10 10	0 0	6	1 1	0 0	64	10 10	0 0	10	1 1	0 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.

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1 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													
			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	Frequency of Criterion/Objective Exceedance (%)													
																	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	1069	1078	778	677	767	759	768	679	679	695	540	574	603	940	-	-	-	-	-	-	-	-	-	-	-	-		
		DROUGHT	1449	1600	1036	983	1008	1019	1011	967	966	989	776	792	829	1405	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sac. R. at Emmaton	ALL	1069	1078	1238	1063	1219	1205	1221	1070	1072	1096	845	887	935	1302	-	-	-	-	-	-	-	-	-	-	-	-	-	
		DROUGHT	1449	1600	1675	1578	1621	1644	1629	1559	1559	1591	1265	1266	1317	1976	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SJR at Jersey Point	ALL	1135	976	1003	838	997	957	944	831	832	907	498	706	681	761	-	-	-	-	-	-	-	-	-	-	-	-	-	
		DROUGHT	1410	1323	1238	1166	1235	1216	1206	1139	1146	1188	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	698	697	698	699	700	702	697	-	-	-	-	-	-	-	-	-	-	-	-	-
	SJR at Brandt Bridge	ALL	586	574	574	576	575	576	575	575	575	574	575	575	576	577	396	-	-	-	-	-	-	-	-	-	-	-	-	-
		DROUGHT	726	700	708	705	708	705	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	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	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	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	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 ~~the~~-BDCP alternatives ~~1-3 and 5-9 are is~~ for Three Mile Slough, per the description of ~~the~~-these alternatives. [Alternative 4 maintains the compliance location at Emmaton, so Threemile Slough data is not shown.](#)

1 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 Emmatton	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
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	
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	
	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	
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
		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
	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	
		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	
	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
			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
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	
		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	
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	
		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	
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	
		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	
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
			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
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	
		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	
	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	
		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	

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Electrical Conductivity		Location	Period ^a	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change		
Alt 4 Scn H1				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	Ex. Cond.
Western Delta	Sac. R. at Emmaton/Threemile Sl. Nr. Sac. R.	ALL	-1109	-634	-927	-602	-416	-498	-210	-277	-92	-169	-10	-67	0	-57	-36	-130	-121	-262	-115	-164	-175	-342	-506	-625	-310	-319		
		DROUGHT	-1609	-1082	-1303	-1026	-735	-925	-225	-444	-63	-284	-19	-84	-1	-69	56	-182	-17	-411	119	-88	-227	-561	-1140	-1817	-430	-581		
	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		
		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		
	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		
		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		
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		
		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		
	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		
		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		
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		
		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		
	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		
		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		
	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		
		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		
	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		
		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		
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		
		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		
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		
		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		
	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		
		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		

^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).

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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/Threemile Sl. Nr. Sac. R.	ALL	-1124	-649	-920	-596	-341	-422	-227	-294	-101	-177	-13	-69	-4	-61	-46	-140	-116	-257	-71	-119	-161	-328	-485	-605
DROUGHT	-1798	-1271			-1411	-1135	-473	-664	-287	-506	-96	-317	-14	-80	2	-66	51	-187	-8	-402	146	-61	-197	-530	-1171	-1849	-438	-589	
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	
	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	
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	
	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	
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	
		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	
	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	
		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	
	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
			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
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	
		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	
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	
		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	
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		
	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		
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	
		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	
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	
		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	
	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	
		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	

^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).

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

Table with columns: Electrical Conductivity, Location, Period, and monthly data (OCT to SEP) for Ex. Cond. and No Act. LLT, plus Annual Avg. Change. Rows include Western Delta, Interior Delta, Southern Delta, and SJR.

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1 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		Location	Period ^a	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		Annual Avg. Change	
				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
Alt 4 Scn H4	Western Delta	Sac. R. at Emmatton	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
			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
		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
			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
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	
		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	
	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	
		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	
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	
		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	
	SJR at Brandt Bridge	ALL	1	0	-33	0	-47	3	-96	-17	-15	-1	-28	-1	-12	-6	-1	54	0	35	12	11	9	-15	-1	-13	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	
	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	
		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	
	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	
		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	
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	
		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	
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	
		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	
	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	
		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	

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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/Threemile Sl. Nr. Sac. R.	ALL	-1363	-887	-1169	-845	-506	-588	-188	-254	-79	-156	-9	-65	-2	-59	-47	-141	-116	-257	-76	-124	-188	-355	-929	-1048
DROUGHT	-1776	-1249			-1642	-1366	-750	-941	-232	-451	-67	-288	-12	-77	-1	-69	48	-190	-9	-403	120	-87	-256	-589	-1211	-1888	-482	-633	
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	
	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	
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	
	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	
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	
		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	
	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	
		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	
	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
			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
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	
		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	
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	
		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	
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		
	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		
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	
		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	
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	
		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	
	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	
		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	

^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).

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