

Appendix 6C

Upper Sacramento River

Daily River Flow and Operations Modeling

Line items and numbers identified or noted as “No Action Alternative” represent the “Existing Conditions/No Project/No Action Condition” (described in Chapter 2 Alternatives Analysis).
Table numbering may not be consecutive for all appendixes.

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APPENDIX 6C

Upper Sacramento River

Daily River Flow and Operations Modeling

6C.1 Overview and Description

This document provides the summary of modeling performed to simulate daily flow and operations in the reservoirs, rivers and other conveyance features that are part of the Central Valley Project (CVP) and the Sites Reservoir Project (Project) for the Project Draft Environmental Impact Report/Environmental Impact Statement (Project DEIR/EIS). It includes a description of the Upper Sacramento River Daily Operations Model (USRDOM) and results used in the detailed evaluation of alternatives. USRDOM results are used or referenced in:

- Chapter 6 Surface Water Resources
- Chapter 7 Surface Water Quality
- Chapter 8 Fluvial Geomorphology and Riparian Habitat
- Chapter 12 Aquatic Biological Resources

6C.1.1 Introduction

USRDOM simulates daily flow and storage conditions in the upper Sacramento River including Trinity basin, Sacramento River from Shasta Lake to Knights Landing and Colusa Basin including the Project conveyance and storage features. The analytical framework used to evaluate the alternatives is summarized in Chapter 5 Guide to the Resource Analyses and Appendix 6B Water Resources System Modeling. Assumptions used in modeling the alternatives are summarized in Appendix 6A Modeling of Alternatives. USRDOM utilizes results from CALSIM II to evaluate the impacts of changing diversion, in-basin use and Delta operations under projected conditions within current or future regulatory and operational regimes. It couples the downstream monthly operational decisions in CALSIM II to a simulation of the associated sub-monthly operational response at Lake Shasta depending on the inflows. It is particularly useful in verifying the CALSIM II simulated river conditions and the availability of excess flows to fill the Sites Reservoir under the capacity and operational constraints of the three intakes at the Red Bluff, Hamilton City and Delevan locations.

Development of the USRDOM, calibration and verification, its use in planning simulations and application to DEIR/EIS Alternatives evaluation is documented in detail in the final USRDOM Development, Calibration, and Application report prepared by CH2M HILL for Reclamation (CH2M HILL, 2011).

6C.1.2 Objective

USRDOM is used in several ways as part of modeling of the operations of DEIR/EIS Alternatives. It was used to test and finalize the CALSIM II operations for the Project alternatives. The main objective of using USRDOM in the DEIR/EIS was to simulate daily flows to inform CALSIM II (monthly) about the potential restrictions on the diversions due to pulse flow conditions. It was also used to evaluate storage conditions in Lake Shasta and Sites Reservoir, flow conditions on a daily-weekly time scale along the Sacramento River from Keswick Dam to Knights Landing and in the Colusa Basin conveyance. The

results from USRDOM are used for input into temperature, biological and flow regime models to evaluate Project alternatives.

6C.1.3 Project Intake Operations Assumptions

The detailed modeling assumptions used for the alternatives modeled for the DEIR/EIS are described in Appendix 6A Modeling of Alternatives. This section briefly describes the key operational assumptions used in the USRDOM model for evaluating the alternatives.

The operational assumptions governing the diversions at the three Project intakes, namely existing Tehama Colusa Canal (TCC) Intake, Glenn Colusa Canal (GCC) Intake and the Delevan Pipeline Intake include:

- Restrictions based on the available channel conveyance capacities at various locations along the TCC and GCC. Further, restrictions based on the dedicated annual maintenance periods for TCC, GCC, and Delevan pipeline.
- Restrictions based on meeting the specified bypass flow requirements downstream of each of the three intakes. In addition, diversions are restricted based on the seasonal bypass flow requirements specified for Sacramento River near Hood.
- Restrictions based on the occurrence of pulse flows in the Sacramento River, which provide key biological cues for the outmigrating juvenile winter-, spring-, fall, and late fall-run Chinook salmon, as well as a portion of the steelhead juvenile fish. Therefore, diversions are restricted for up to one pulse event recognized in each month of the October through May period. Bend Bridge flow was used to identify pulse signals as part of the modeling.

6C.1.4 Overview of the Planning Analysis

For DEIR/EIS, CALSIM II is the model of choice for the lead agencies to simulate reservoir operations and river flow conditions. CALSIM II simulates CVP and State Water Project (SWP) operations on a monthly timestep from WY 1922 through WY 2003. Therefore, for the USRDOM projected conditions simulation, the inputs are taken from CALSIM II for a consistent analysis. Appendix 6B Water Resources System Modeling includes detailed description of the CALSIM II model. Because USRDOM requires inputs on a daily timestep, the monthly inputs and outputs of the CALSIM II model are downscaled to a daily timestep using the CAL2DOM utility. CAL2DOM utility translates monthly CALSIM II operations data to a daily time step. It uses the inputs and outputs from CALSIM II, USRDOM hydrology inputs, and other datasets to compute inflows, diversions, and evaporation rates for using as inputs in the USRDOM.

6C.1.5 Analysis of Project Alternatives

CALSIM II was the core model used to simulate the Project operations. However, the assumptions related to the intake operations require daily flow data in determining the diversions allowed at the intakes, in turn affecting the system-wide operations. Since CALSIM II is a monthly timestep model, USRDOM results were used to enforce the intake operations on a sub-monthly scale. Due to the complexity in the intake operational rules, a spreadsheet tool was developed to implement the operational constraints using the daily results from the USRDOM. Further, the models were iterated to ensure all the intake operations assumptions were simulated accurately. Figure 6C-1 shows the schematic of the modeling process used to simulate Project operations.

In the first iteration, CALSIM II and USRDOM models are simulated for a Project alternative to determine the days requiring the pulse protection. A draft CALSIM II simulation was run with all the physical, regulatory and operational assumptions for the Project alternative. The results from this “draft” CALSIM II simulation were used to run the USRDOM model. The USRDOM setup included Project assumptions consistent with the draft CALSIM II. Since this USRDOM run is used to estimate daily flows in the river to determine the days requiring pulse protection, the diversions at the TCC, GCC, and Delevan intakes are restricted to meet the agricultural demands and other local uses in Colusa Basin region. The CAL2DOM logic was altered to estimate the diversions at the three intake locations without including the diversions for filling Sites Reservoir in this USRDOM run (called as, draft USRDOM No Fills Run). The results from the draft USRDOM No Fills run are used in a spreadsheet tool to determine the number of days under pulse protection in each month, over the 82-year period.

1. Draft CALSIM II and USRDOM Simulations for a NODOS Alternative to determine days requiring “pulse protection”



2. Final CALSIM II and USRDOM Simulations for a NODOS Alternative to determine daily diversions for Sites Reservoir fill flows at TCC, GCC and proposed new Delevan Pipeline intakes



3. Final USRDOM Simulation for a NODOS Alternative to provide daily flow data for temperature, biological and flow regime models

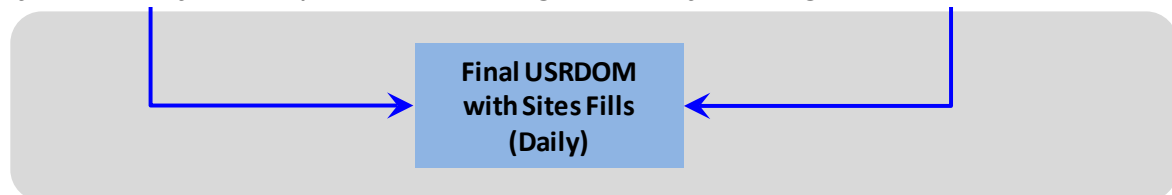


Figure 6C-1 Operations Modeling Process used for the Project Alternatives Evaluation

In the second iteration, the draft CALSIM II from the first iteration is re-run with the pulse protection data, to simulate the final monthly operations for the Project alternative. The goal of this iteration is to determine the daily diversion amounts at the TCC, GCC, and Delevan pipeline intakes. Since the

complexity involved in simulating capacity and maintenance constraints, bypass flow requirements and pulse protection restrictions simultaneously, the existing CAL2DOM logic to determine the daily diversions at the three intakes is insufficient. Therefore, the results from the final CALSIM II simulation are used to run another USRDOM simulation without including the diversions needed to fill the Sites Reservoir at the three intake locations (called as, final USRDOM No Fills Run). The purpose of this final USRDOM No Fills run is to determine the daily flows in the Sacramento River at key control points. This data is used in a spreadsheet tool to determine the daily diversions required to fill Sites Reservoir at the three intakes while complying with all the operational rules.

The daily diversions for the Sites fills at the three intakes are determined in three steps in the spreadsheet tool. In the first step the available diversion capacity is determined based on the capacity and maintenance constraints described above. In addition, based on the daily USRDOM flow the available flow to meet the monthly average diversion for fill (from CALSIM II) is determined at each intake, while meeting the bypass flow requirements. If there are no pulse flow restrictions for a given day, then the diversion at each intake is estimated as the minimum of available capacity and the available flow for diversion.

If the total diversion volumes at each intake from the first step for each month are less than the amount determined in CALSIM II, additional diversions needed to make up the difference are estimated in the second step. In this step, the additional diversions are made up at any of the three intakes depending on the available diversion capacity and the available flow for the diversion. First TCC intake is checked, then the GCC intake and finally the Delevan pipeline intake for any available diversion capacity for each month.

Based on the diversions from the second step, the months with volumes continue to be short of the CALSIM II values are flagged in the third and final step. These shortages are carried forward to the next months in which the diversion capacity and the flow for the diversion are available. This carrying forward of the shortages is only allowed in November through May months, which generally is the Sites Reservoir filling period. The availability of the flow for the diversion is estimated as the Wilkins Slough flow in excess of the minimum flow requirement at Knights Landing (estimated in CAL2DOM).

In this process, a few reasonable simplifying assumptions were made for modeling purposes, mainly because CALSIM II determines the diversions at the three intakes on a monthly timestep without knowing the daily constraints due to the intake operations assumptions and the daily variability in the unregulated flows. It is assumed that based on the available real-time monitoring, there is enough flexibility in TCC, GCC, and Delevan pipeline operations and in the interoperability among the three conveyance systems such that the diversions to fill Sites Reservoir can be made up through the following:

- Diversions at any of the three intake locations while meeting all the intake operations assumptions at each intake
- Diversions in any of the months during the fill season of November through May if usable diversion capacity and divertible flow is available

In the third iteration final USRDOM run is simulated using the final CALSIM II results and the daily diversions for fills from the final step of the spreadsheet tool. CAL2DOM is modified to combine the diversions for the fills and the diversions for meeting local Colusa Basin demands to determine the total daily diversions at each of the three intakes.

The flow and storage results from the final USRDOM simulation are used to run the USRWQM for Sacramento River temperatures and other models to study the temperature, biological and flow regime effects of the Project alternatives. USRDOM results for the daily weir spills at Ord Ferry, Moulton Weir, Colusa Weir and Tisdale Weir were used in the evaluation of the DEIR/EIS Alternatives. Daily flow results from USRDOM and daily temperature results from USRWQM were used to simulate the potential impact of the Sites releases on the Sacramento River temperatures at the Delevan Pipeline, as described in Appendix 7F Sites Reservoir Discharge Temperature Modeling. USRDOM results were also used to identify inflow sources in the Sacramento River on a sub-monthly time-step to study likely water quality impacts summarized in Appendix 7C Surface Water Quality Analysis for Electrical Conductivity at Proposed Intakes. More information regarding the analytical framework used to evaluate the alternatives is in Appendix 6B Water Resources System Modeling.

6C.1.6 Limitations

In using the USRDOM results for the Alternatives evaluation following limitations should be noted:

The USRDOM calibration for Clear Creek flows below Whiskeytown Dam is significantly weaker than for other flows in the Trinity and Sacramento River systems. It is recommended that the CALSIM II model alone be used as the basis for impact assessment on Clear Creek flows.

In the downscaling of CALSIM II boundary condition flows for use in the USRDOM simulations, diversions at Red Bluff, Hamilton City and the Delevan Pipeline (Project alternatives) are smoothed from monthly to daily timestep. In this smoothing operation, in order to conserve volume and have a gradual change in diversion flows (as opposed to sharp changes at monthly or other time scale boundaries), there are some days in which diversions are represented in the model at flow rates that may exceed the sustainable rate of the physical capacity of these facilities. It is recommended that any assessment of flows or other parameters linked to the peak flow rate of these diversions use monthly average values rather than daily or other sub-monthly average values.

The CALSIM II model is used to establish system operational conditions and USRDOM is used to interpret these on a daily time-step; all residuals and inconsistencies between the CALSIM II and USRDOM models accumulate in storage facilities modeled, including Sites Reservoir; the Sites Reservoir storage in the USRDOM sometimes exceeds physical capacity slightly due to this inconsistency between the models.

6C.1.7 List of References

CH2M HILL. 2011. Final USRDOM Development, Calibration, and Application. Prepared for Bureau of Reclamation, Mid-Pacific Region.

6C.2 Results

This section includes the results from the Upper Sacramento River Daily Operations Model (USRDOM) used in the detailed evaluation of the alternatives for the DEIR/EIS.

6C.2.1 Introduction

The USRDOM results included in this appendix are used in:

- Chapter 6 Surface Water Resources
- Chapter 7 Surface Water Quality
- Chapter 12 Aquatic Biological Resources

For each parameter and location shown in Table 6C-1, Summary Tables reports are provided. In the Summary Tables reports, for each parameter and location shown below, summary tables of USRDOM results by month are included. The tables include long-term average, and averages by water year type (SWRCB 40-30-30 Index). The tables also include the absolute and relative differences between alternatives.

6C.2.2 Locations and Parameters

The locations and the parameters for the results included in this appendix are tabulated below in Table 6C-1. Maps showing these locations are included in Appendix 6B Water Resources System Modeling.

Other analyses were used to evaluate flow conditions. The State Water Project (SWP) and Central Valley Project (CVP) water operations modeling using the CALSIM II model, referred to in Chapter 6 Surface Water Resources, for evaluating reservoir storage, flow and diversions for locations in the Sacramento River Basin and Sacramento-San Joaquin Delta is included in Appendix 6B Water Resources System Modeling.

Table 6C-1
Upper Sacramento River Daily Operations Model Results Locations and Parameters

	Report Title	Time-Step	Parameter
1	Ord Ferry Spills into Sutter Bypass	Monthly average of Daily flows	Diversion*
2	Moulton Weir Spills into Sutter Bypass	Monthly average of Daily flows	Diversion*
3	Colusa Weir Spills into Sutter Bypass	Monthly average of Daily flows	Diversion*
4	Tisdale Weir Spills into Sutter Bypass	Monthly average of Daily flows	Diversion*

*Diversion of flow from the Sacramento River through the weir into the Sutter Bypass; this is a result of high flows in the Sacramento River such that the river stage is greater than the crest of the weir.

6C.2.3 Comparisons

Summary Tables reports are provided for the following comparisons:

- Alternative A compared to No Action Alternative
- Alternative B compared to No Action Alternative
- Alternative C compared to No Action Alternative
- Alternative D compared to No Action Alternative

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Sacramento River Daily Flow Modeling Results

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Alternative A Compared to No Action Alternative

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Table SW-49-3a
 Ord Ferry Spills into Sutter Bypass, Monthly Diversion
 Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Full Simulation Period¹												
No Action Alternative	0	0	63	257	431	189	14	0	0	0	0	0
Alternative A	0	0	64	233	418	181	13	0	0	0	0	0
Difference	0	0	2	-24	-12	-8	-1	0	0	0	0	0
Percent Difference ³			2.4%	-9.5%	-2.9%	-4.2%	-4.7%					
Water Year Types²												
Wet (32%)												
No Action Alternative	0	0	29	779	1213	554	34	0	0	0	0	0
Alternative A	0	0	36	722	1196	539	34	0	0	0	0	0
Difference	0	0	7	-57	-17	-15	0	0	0	0	0	0
Percent Difference			22.7%	-7.3%	-1.4%	-2.7%	-0.1%					
Above Normal (15%)												
No Action Alternative	0	0	1	68	316	88	19	0	0	0	0	0
Alternative A	0	0	13	24	268	67	14	0	0	0	0	0
Difference	0	0	13	-44	-48	-21	-4	0	0	0	0	0
Percent Difference				-64.4%	-15.1%	-23.8%	-22.9%					
Below Normal (17%)												
No Action Alternative	0	0	123	0	0	0	0	0	0	0	0	0
Alternative A	0	0	103	0	0	0	0	0	0	0	0	0
Difference	0	0	-21	0	0	0	0	0	0	0	0	0
Percent Difference			-16.9%									
Dry (22%)												
No Action Alternative	0	0	147	0	0	0	0	0	0	0	0	0
Alternative A	0	0	152	0	0	0	0	0	0	0	0	0
Difference	0	0	5	0	0	0	0	0	0	0	0	0
Percent Difference			3.6%									
Critical (15%)												
No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0
Alternative A	0	0	0	0	0	0	0	0	0	0	0	0
Difference	0	0	0	0	0	0	0	0	0	0	0	0
Percent Difference												

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

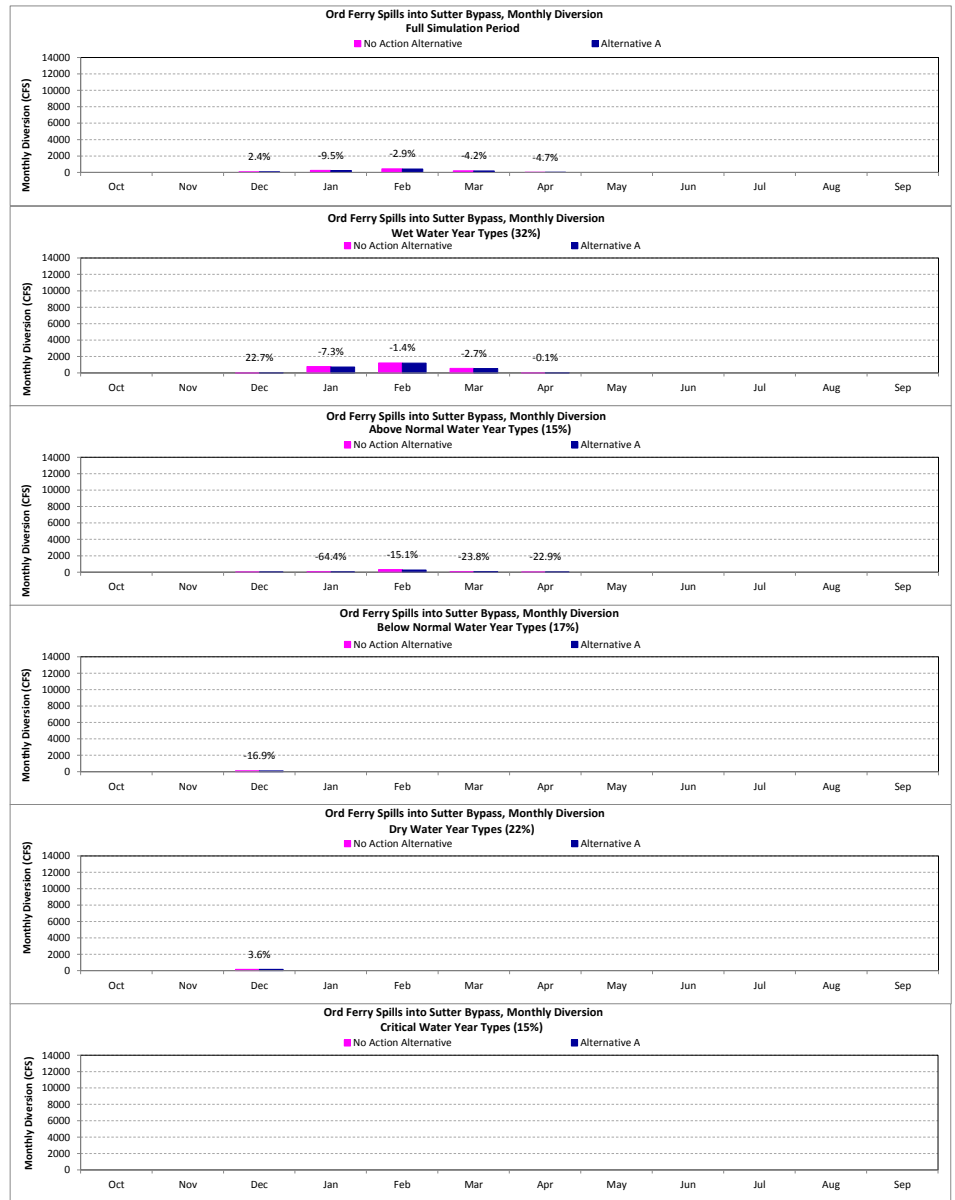


Figure SW-49-3b
 Ord Ferry Spills into Sutter Bypass, Monthly Diversion
 Probability of Exceedance

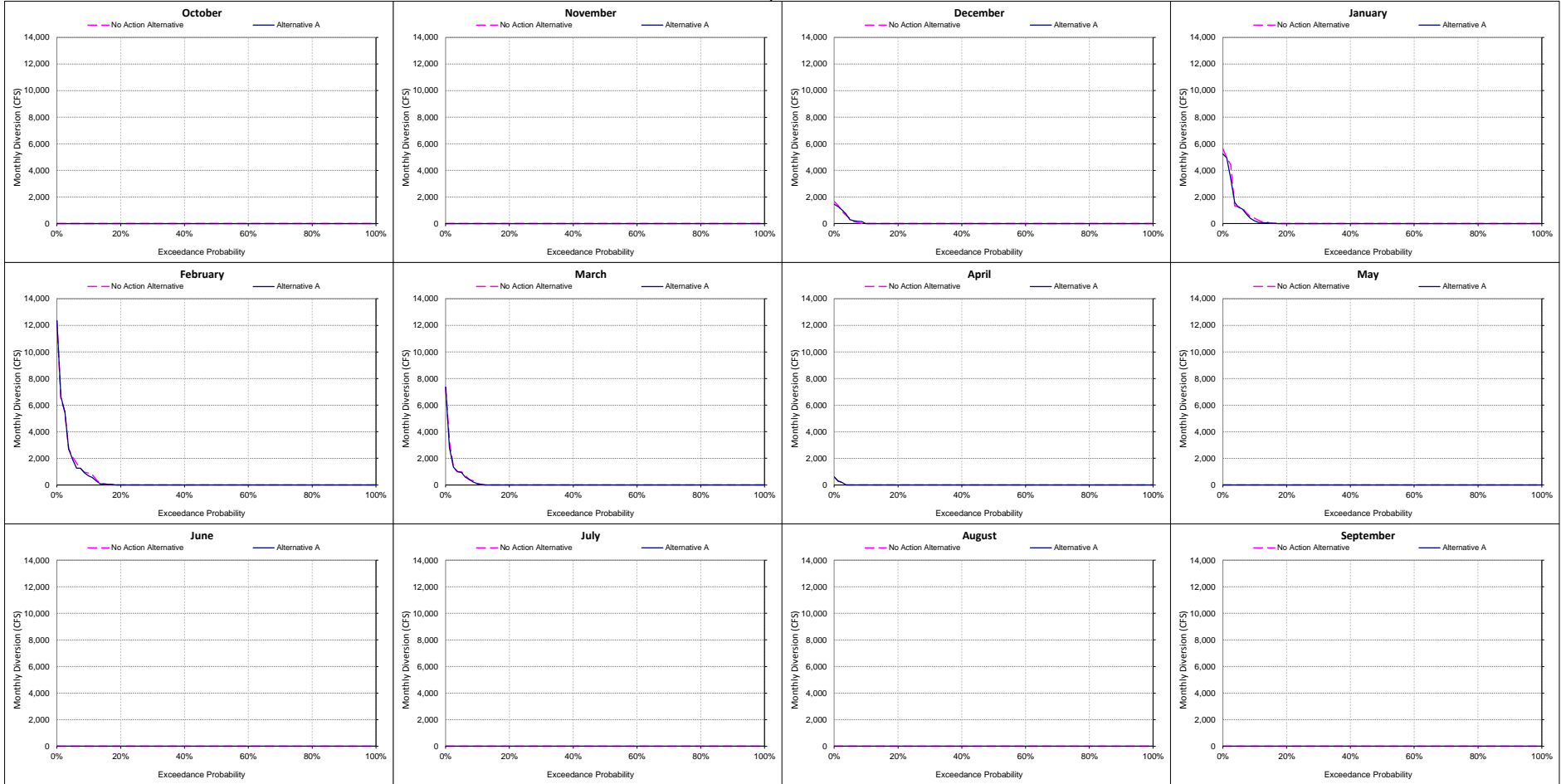


Table SW-50-3a
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Long-term											
Full Simulation Period¹												
No Action Alternative	0	0	59	283	467	240	32	0	0	0	0	0
Alternative A	0	0	65	269	457	224	31	0	0	0	0	0
Difference	0	0	6	-14	-10	-16	-1	0	0	0	0	0
Percent Difference ³			10.7%	-5.1%	-2.2%	-6.7%	-3.1%					
Water Year Types²												
Wet (32%)												
No Action Alternative	0	0	42	829	1367	690	83	0	0	0	0	0
Alternative A	0	0	49	806	1353	657	83	0	0	0	0	0
Difference	0	0	8	-23	-14	-33	0	0	0	0	0	0
Percent Difference			18.3%	-2.8%	-1.0%	-4.8%	0.0%					
Above Normal (15%)												
No Action Alternative	0	0	7	139	229	147	38	0	0	0	0	0
Alternative A	0	1	20	89	188	109	31	0	0	0	0	0
Difference	0	1	13	-50	-40	-38	-7	0	0	0	0	0
Percent Difference			36.0%	-17.7%	-25.8%	-17.6%						
Below Normal (17%)												
No Action Alternative	0	0	94	1	0	0	0	0	0	0	0	0
Alternative A	0	0	94	3	0	0	0	0	0	0	0	0
Difference	0	0	-1	1	0	0	0	0	0	0	0	0
Percent Difference			-0.7%	106.9%								
Dry (22%)												
No Action Alternative	0	0	130	0	0	0	0	0	0	0	0	0
Alternative A	0	0	139	0	0	0	0	0	0	0	0	0
Difference	0	0	9	0	0	0	0	0	0	0	0	0
Percent Difference			7.2%									
Critical (15%)												
No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0
Alternative A	0	0	0	0	0	0	0	0	0	0	0	0
Difference	0	0	0	0	0	0	0	0	0	0	0	0
Percent Difference												

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

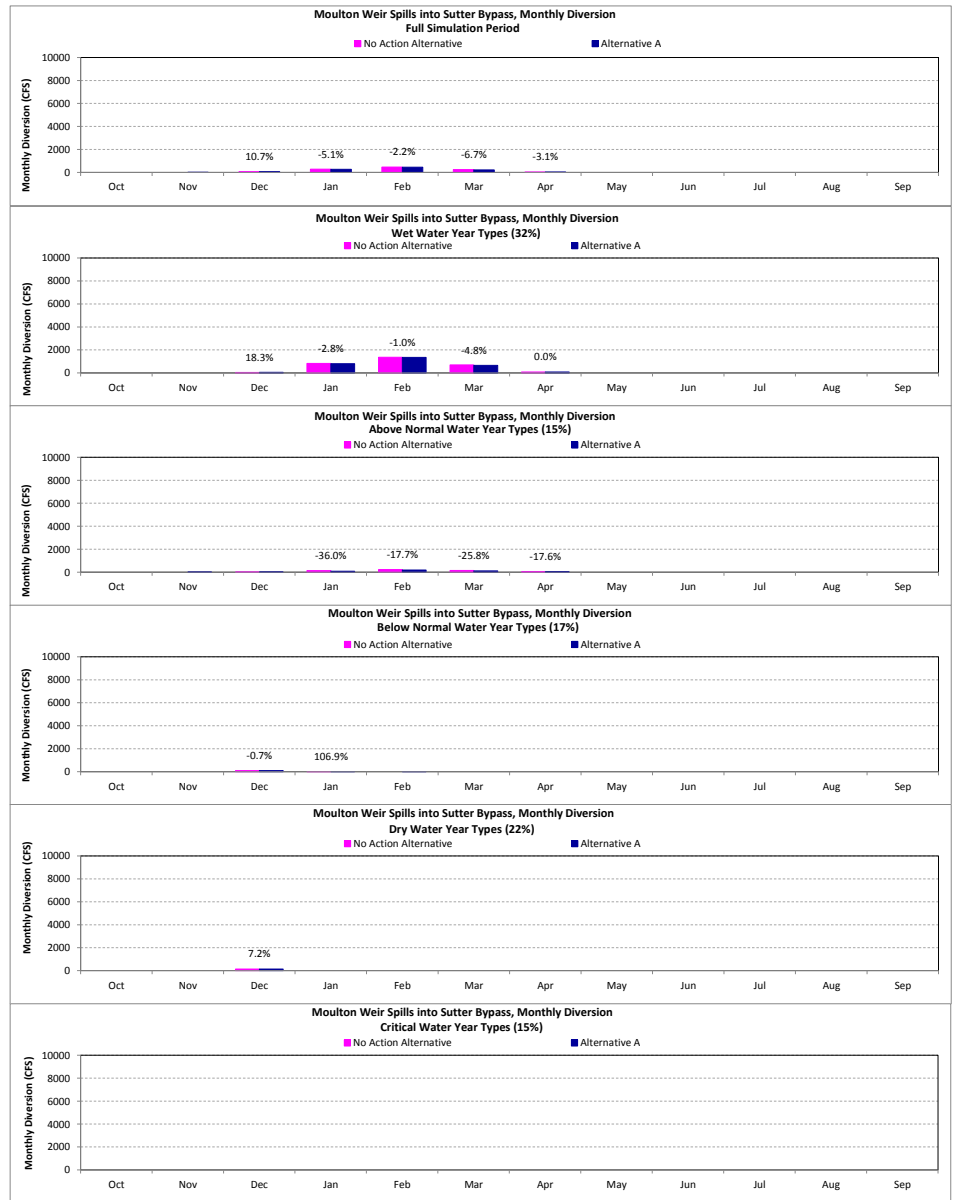


Figure SW-50-3b
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

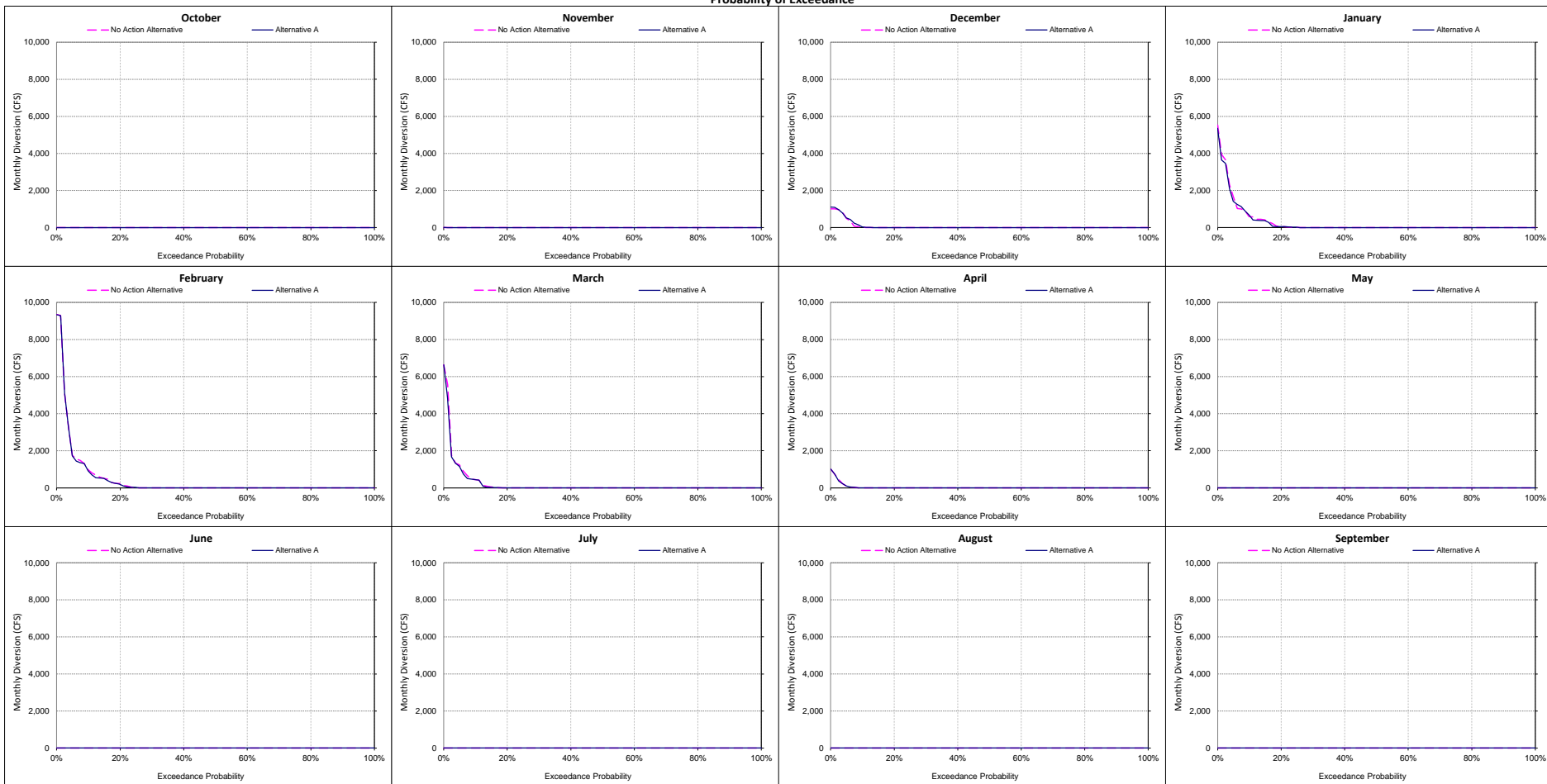


Table SW-50-3b
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

October					November					December					January				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	0	0	0		0.0%	0	8	8		0.0%	1010	1101	91	9.0%	0.0%	5535	5365	-170	-3.1%
1.2%	0	0	0		1.2%	0	0	0		1.2%	1009	1094	85	8.4%	1.2%	3947	3651	-296	-7.5%
2.5%	0	0	0		2.5%	0	0	0		2.5%	869	869	0	0.0%	2.5%	3653	3464	-188	-5.2%
3.7%	0	0	0		3.7%	0	0	0		3.7%	839	788	-51	-6.1%	3.7%	2312	2100	-212	-9.2%
4.9%	0	0	0		4.9%	0	0	0		4.9%	494	523	29	6.0%	4.9%	1658	1415	-242	-14.6%
6.2%	0	0	0		6.2%	0	0	0		6.2%	351	437	86	24.5%	6.2%	1025	1255	230	22.4%
7.4%	0	0	0		7.4%	0	0	0		7.4%	74	229	155	208.8%	7.4%	1003	1133	130	12.9%
8.6%	0	0	0		8.6%	0	0	0		8.6%	53	145	92	175.3%	8.6%	890	898	8	0.9%
9.9%	0	0	0		9.9%	0	0	0		9.9%	28	36	8	28.3%	9.9%	594	671	78	13.1%
11.1%	0	0	0		11.1%	0	0	0		11.1%	0	10	10		11.1%	571	406	-165	-28.9%
12.3%	0	0	0		12.3%	0	0	0		12.3%	0	10	10		12.3%	446	396	-50	-11.2%
13.6%	0	0	0		13.6%	0	0	0		13.6%	0	0	0		13.6%	444	376	-67	-15.2%
14.8%	0	0	0		14.8%	0	0	0		14.8%	0	0	0		14.8%	414	374	-41	-9.8%
16.0%	0	0	0		16.0%	0	0	0		16.0%	0	0	0		16.0%	309	271	-38	-12.2%
17.3%	0	0	0		17.3%	0	0	0		17.3%	0	0	0		17.3%	213	66	-147	-69.2%
18.5%	0	0	0		18.5%	0	0	0		18.5%	0	0	0		18.5%	77	48	-29	-37.6%
19.8%	0	0	0		19.8%	0	0	0		19.8%	0	0	0		19.8%	53	47	-6	-11.9%
21.0%	0	0	0		21.0%	0	0	0		21.0%	0	0	0		21.0%	47	45	-1	-3.1%
22.2%	0	0	0		22.2%	0	0	0		22.2%	0	0	0		22.2%	26	38	11	42.5%
23.5%	0	0	0		23.5%	0	0	0		23.5%	0	0	0		23.5%	18	28	10	52.4%
24.7%	0	0	0		24.7%	0	0	0		24.7%	0	0	0		24.7%	10	21	11	
25.9%	0	0	0		25.9%	0	0	0		25.9%	0	0	0		25.9%	0	0	0	
27.2%	0	0	0		27.2%	0	0	0		27.2%	0	0	0		27.2%	0	0	0	
28.4%	0	0	0		28.4%	0	0	0		28.4%	0	0	0		28.4%	0	0	0	
29.6%	0	0	0		29.6%	0	0	0		29.6%	0	0	0		29.6%	0	0	0	
30.9%	0	0	0		30.9%	0	0	0		30.9%	0	0	0		30.9%	0	0	0	
32.1%	0	0	0		32.1%	0	0	0		32.1%	0	0	0		32.1%	0	0	0	
33.3%	0	0	0		33.3%	0	0	0		33.3%	0	0	0		33.3%	0	0	0	
34.5%	0	0	0		34.5%	0	0	0		34.5%	0	0	0		34.5%	0	0	0	
35.8%	0	0	0		35.8%	0	0	0		35.8%	0	0	0		35.8%	0	0	0	
37.0%	0	0	0		37.0%	0	0	0		37.0%	0	0	0		37.0%	0	0	0	
38.3%	0	0	0		38.3%	0	0	0		38.3%	0	0	0		38.3%	0	0	0	
39.5%	0	0	0		39.5%	0	0	0		39.5%	0	0	0		39.5%	0	0	0	
40.7%	0	0	0		40.7%	0	0	0		40.7%	0	0	0		40.7%	0	0	0	
42.0%	0	0	0		42.0%	0	0	0		42.0%	0	0	0		42.0%	0	0	0	
43.2%	0	0	0		43.2%	0	0	0		43.2%	0	0	0		43.2%	0	0	0	
44.4%	0	0	0		44.4%	0	0	0		44.4%	0	0	0		44.4%	0	0	0	
45.7%	0	0	0		45.7%	0	0	0		45.7%	0	0	0		45.7%	0	0	0	
46.9%	0	0	0		46.9%	0	0	0		46.9%	0	0	0		46.9%	0	0	0	
48.1%	0	0	0		48.1%	0	0	0		48.1%	0	0	0		48.1%	0	0	0	
49.4%	0	0	0		49.4%	0	0	0		49.4%	0	0	0		49.4%	0	0	0	
50.6%	0	0	0		50.6%	0	0	0		50.6%	0	0	0		50.6%	0	0	0	
51.9%	0	0	0		51.9%	0	0	0		51.9%	0	0	0		51.9%	0	0	0	
53.1%	0	0	0		53.1%	0	0	0		53.1%	0	0	0		53.1%	0	0	0	
54.3%	0	0	0		54.3%	0	0	0		54.3%	0	0	0		54.3%	0	0	0	
55.6%	0	0	0		55.6%	0	0	0		55.6%	0	0	0		55.6%	0	0	0	
56.8%	0	0	0		56.8%	0	0	0		56.8%	0	0	0		56.8%	0	0	0	
58.0%	0	0	0		58.0%	0	0	0		58.0%	0	0	0		58.0%	0	0	0	
59.3%	0	0	0		59.3%	0	0	0		59.3%	0	0	0		59.3%	0	0	0	
60.5%	0	0	0		60.5%	0	0	0		60.5%	0	0	0		60.5%	0	0	0	
61.7%	0	0	0		61.7%	0	0	0		61.7%	0	0	0		61.7%	0	0	0	
63.0%	0	0	0		63.0%	0	0	0		63.0%	0	0	0		63.0%	0	0	0	
64.2%	0	0	0		64.2%	0	0	0		64.2%	0	0	0		64.2%	0	0	0	
65.4%	0	0	0		65.4%	0	0	0		65.4%	0	0	0		65.4%	0	0	0	
66.7%	0	0	0		66.7%	0	0	0		66.7%	0	0	0		66.7%	0	0	0	
67.9%	0	0	0		67.9%	0	0	0		67.9%	0	0	0		67.9%	0	0	0	
69.1%	0	0	0		69.1%	0	0	0		69.1%	0	0	0		69.1%	0	0	0	
70.4%	0	0	0		70.4%	0	0	0		70.4%	0	0	0		70.4%	0	0	0	
71.6%	0	0	0		71.6%	0	0	0		71.6%	0	0	0		71.6%	0	0	0	
72.8%	0	0	0		72.8%	0	0	0		72.8%	0	0	0		72.8%	0	0	0	
74.1%	0	0	0		74.1%	0	0	0		74.1%	0	0	0		74.1%	0	0	0	
75.3%	0	0	0		75.3%	0	0	0		75.3%	0	0	0		75.3%	0	0	0	
76.5%	0	0	0		76.5%	0	0	0		76.5%	0	0	0		76.5%	0	0	0	
77.8%	0	0	0		77.8%	0	0	0		77.8%	0	0	0		77.8%	0	0	0	
79.0%	0	0	0		79.0%	0	0	0		79.0%	0	0	0		79.0%	0	0	0	
80.2%	0	0	0		80.2%	0	0	0		80.2%	0	0	0		80.2%	0	0	0	
81.5%	0	0	0		81.5%	0	0	0		81.5%	0	0	0		81.5%	0	0	0	
82.7%	0	0	0		82.7%	0	0	0		82.7%	0	0	0		82.7%	0	0	0	
84.0%	0	0	0		84.0%	0	0	0		84.0%	0	0	0		84.0%	0	0	0	
85.2%	0	0	0		85.2%	0	0	0		85.2%	0	0	0		85.2%	0	0	0	
86.4%	0	0	0		86.4%	0	0	0		86.4%	0	0	0		86.4%	0	0	0	
87.7%	0	0	0		87.7%	0	0	0		87.7%	0	0	0		87.7%	0	0	0	
88.9%	0	0	0		88.9%	0	0	0		88.9%	0	0	0		88.9%	0	0	0	
90.1%	0	0	0		90.1%	0	0	0		90.1%	0	0	0		90.1%	0	0	0	
91.4%	0	0	0		91.4%	0	0	0		91.4%	0	0	0		91.4%	0	0	0	
92.6%	0	0	0		92.6%	0	0	0		92.6%	0	0	0		92.6%	0	0	0	
93.8%	0	0	0		93.8%	0	0	0		93.8%	0	0	0		93.8%	0	0	0	
95.1%	0	0	0		95.1%	0	0	0		95.1%	0	0	0		95.1%	0	0	0	
96.3%	0	0	0		96.3%	0	0	0		96.3%	0	0	0		96.3%	0	0	0	
97.5%	0	0	0		97.5%	0	0	0		97.5%	0	0	0		97.5%	0	0	0	
98.8%	0	0	0		98.8%	0	0	0		98.8%	0	0	0		98.8%	0	0	0	
100.0%	0.0	0.0	0.0		100.0%	0.0	0.0	0.0		100.0%	0.0	0.0	0.0		100.0%	0.0	0.0	0.0	

Table SW-51-3a
Colusa Weir Spills into Sutter Bypass, Monthly Diversion
Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)										
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Sep
Full Simulation Period¹											
No Action Alternative	7	126	1329	3917	5723	3523	1174	68	19	0	0
Alternative A	10	127	1399	3791	5457	3328	1177	66	18	0	0
Difference	3	1	70	-126	-266	-195	3	-2	-2	0	0
Percent Difference ²			5.3%	-3.2%	-4.6%	-5.5%	0.2%				
Water Year Types³											
Wet (32%)											
No Action Alternative	0	35	1292	9956	14022	8607	3195	128	61	0	0
Alternative A	0	60	1402	10004	13875	8407	3233	123	56	0	0
Difference	0	25	111	49	-147	-199	38	-5	-5	0	0
Percent Difference			8.6%	0.5%	-1.0%	-2.3%	1.2%				
Above Normal (15%)											
No Action Alternative	0	589	1240	3961	5888	4959	997	187	0	0	0
Alternative A	0	552	1180	3254	5309	4335	958	186	0	0	0
Difference	0	-36	-60	-706	-579	-624	-38	-1	0	0	0
Percent Difference		-6.2%	-4.8%	-17.8%	-9.8%	-12.6%	-3.9%	-0.4%			
Below Normal (17%)											
No Action Alternative	40	75	1613	716	1433	83	89	0	0	0	0
Alternative A	56	76	1801	643	948	27	69	0	0	0	0
Difference	16	0	188	-73	-485	-56	-20	0	0	0	0
Percent Difference	39.5%	0.5%	11.7%	-10.2%	-33.8%	-67.5%	-22.9%				
Dry (22%)											
No Action Alternative	0	75	2090	256	768	245	0	0	0	0	0
Alternative A	0	65	2142	147	538	104	0	0	0	0	0
Difference	0	-9	52	-109	-231	-141	0	0	0	0	0
Percent Difference		-12.3%	2.5%	-42.6%	-30.0%	-57.4%					
Critical (15%)											
No Action Alternative	0	0	29	14	13	0	0	0	0	0	0
Alternative A	0	0	28	2	8	0	0	0	0	0	0
Difference	0	0	0	-13	-5	0	0	0	0	0	0
Percent Difference			-1.4%	-87.8%	-38.4%						

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

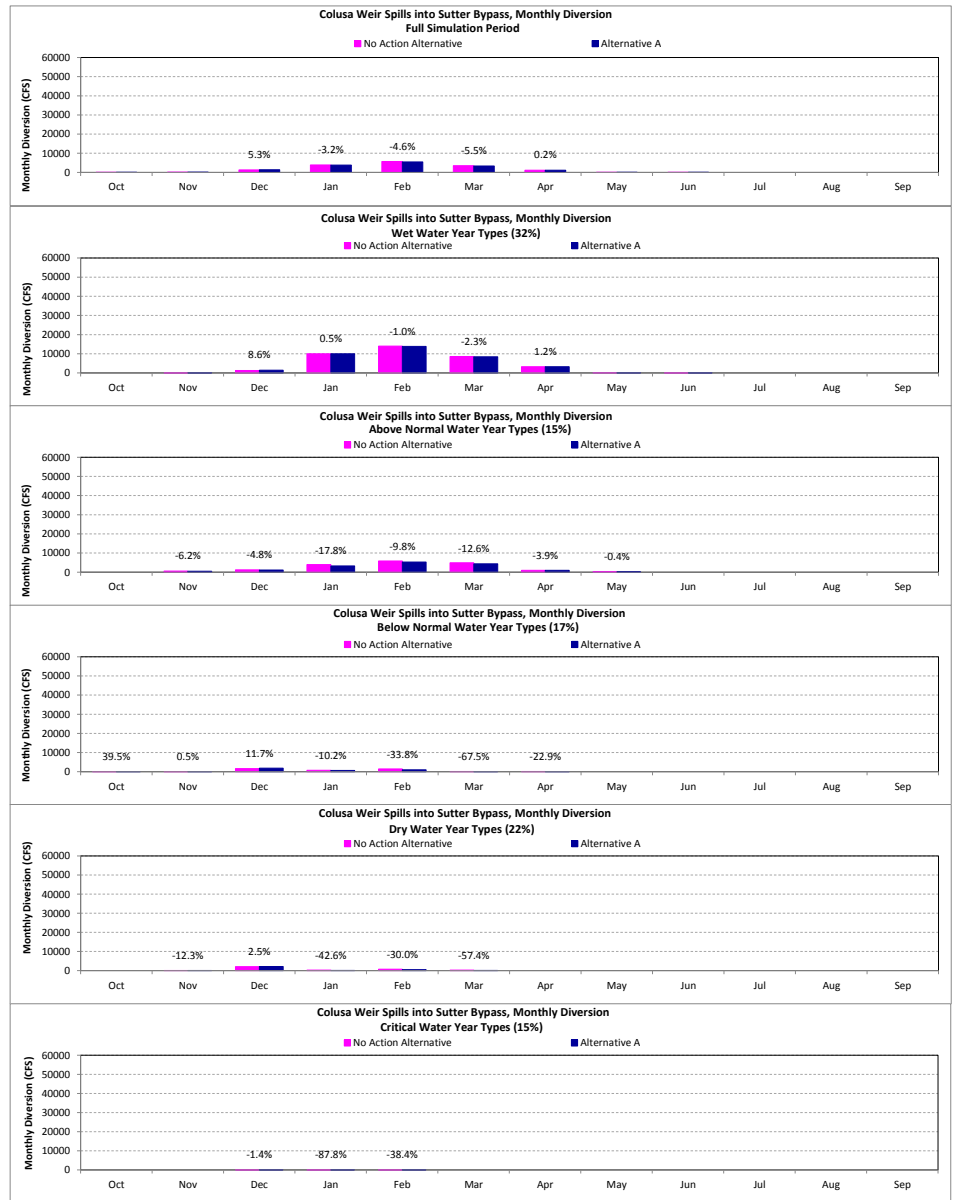


Figure SW-51-3b
Colusa Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

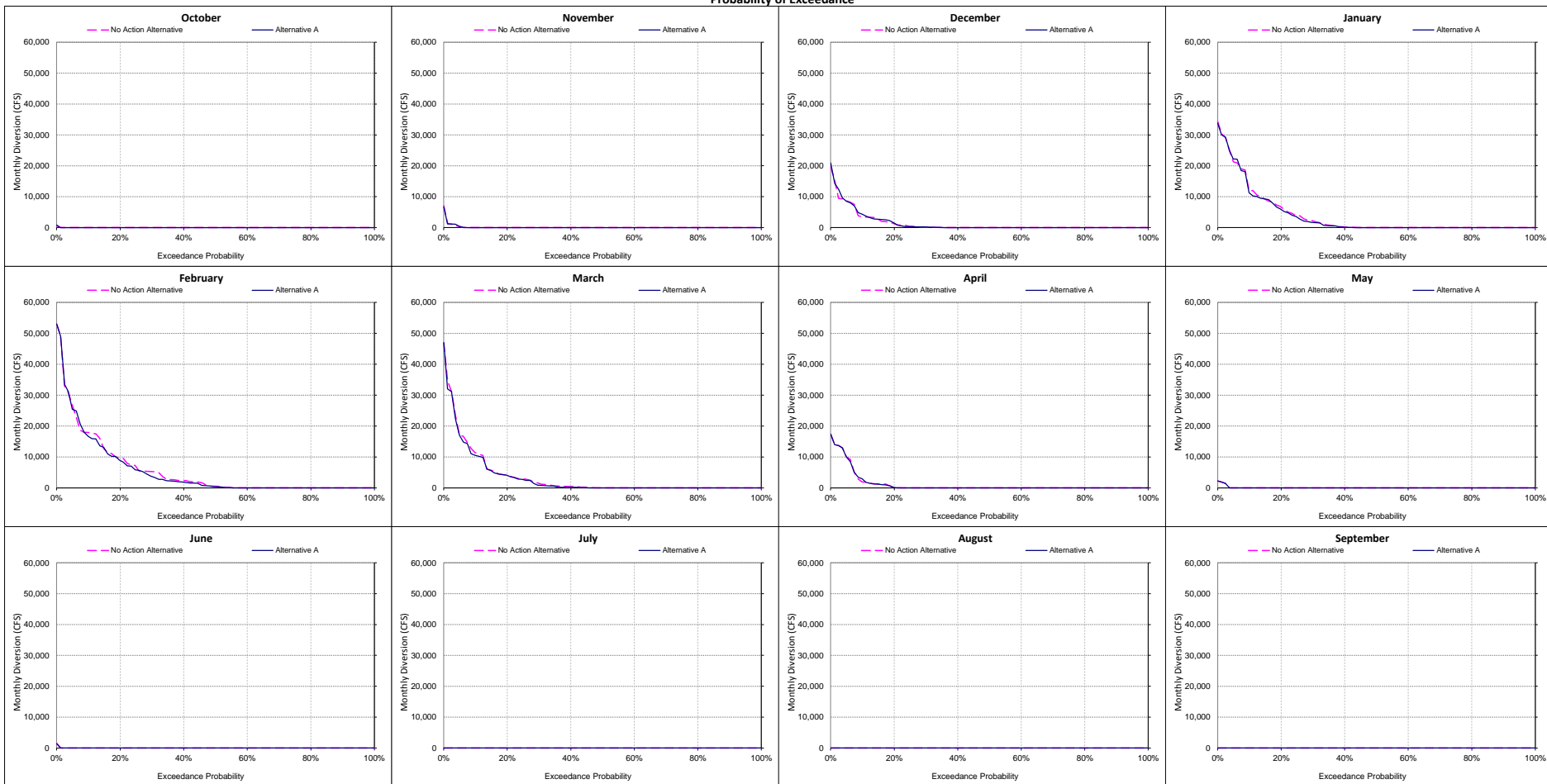


Table SW-52-3a
Tisdale Weir Spills into Sutter Bypass, Monthly Diversion
Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Long-term												
Full Simulation Period¹												
No Action Alternative	8	147	1010	2248	3231	2125	897	89	45	0	0	0
Alternative A	11	132	983	2162	3058	1969	872	85	45	0	0	0
Difference	3	-15	-27	-85	-173	-156	-25	-4	-1	0	0	0
Percent Difference ²		-10.3%	-2.7%	-3.8%	-5.4%	-7.3%	-2.8%	-4.4%				
Water Year Types³												
Wet (32%)												
No Action Alternative	0	98	1109	5277	7193	4834	2396	169	143	0	0	0
Alternative A	0	91	1095	5283	7050	4650	2363	158	141	0	0	0
Difference	0	-7	-14	5	-144	-185	-33	-11	-2	0	0	0
Percent Difference		-1.3%	-0.1%	-2.0%	-3.8%	-1.4%						
Above Normal (15%)												
No Action Alternative	0	511	1096	2726	3647	3200	767	241	0	0	0	0
Alternative A	1	446	1011	2375	3389	2860	714	239	0	0	0	0
Difference	1	-65	-85	-350	-258	-340	-53	-2	0	0	0	0
Percent Difference		-12.8%	-7.8%	-12.9%	-7.1%	-10.6%	-6.9%	-0.8%				
Below Normal (17%)												
No Action Alternative	49	101	1231	613	1293	265	147	0	0	0	0	0
Alternative A	65	101	1296	549	1012	158	110	0	0	0	0	0
Difference	16	0	65	-64	-281	-106	-37	0	0	0	0	0
Percent Difference	33.2%	0.2%	5.3%	-10.4%	-21.7%	-40.1%	-25.3%					
Dry (22%)												
No Action Alternative	0	110	1255	278	823	356	0	0	0	0	0	0
Alternative A	0	95	1160	177	643	224	0	0	0	0	0	0
Difference	0	-15	-95	-101	-180	-132	0	0	0	0	0	0
Percent Difference		-13.7%	-7.5%	-36.3%	-21.9%	-37.1%						
Critical (15%)												
No Action Alternative	0	0	86	67	101	3	0	0	0	0	0	0
Alternative A	0	0	84	47	87	0	0	0	0	0	0	0
Difference	0	0	-3	-20	-14	-3	0	0	0	0	0	0
Percent Difference			-3.3%	-29.5%	-14.0%	-100.0%						

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

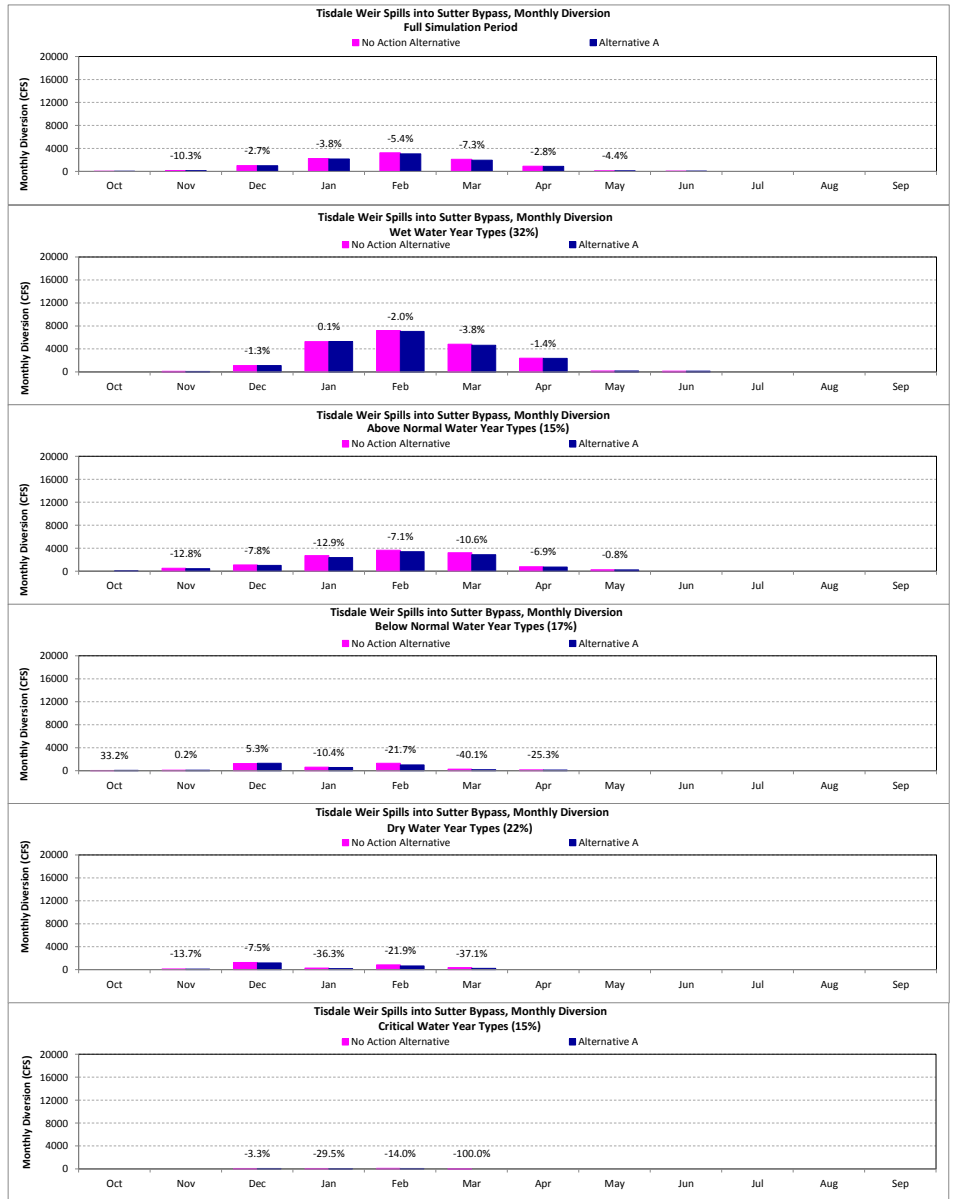


Figure SW-52-3b
Tisdale Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

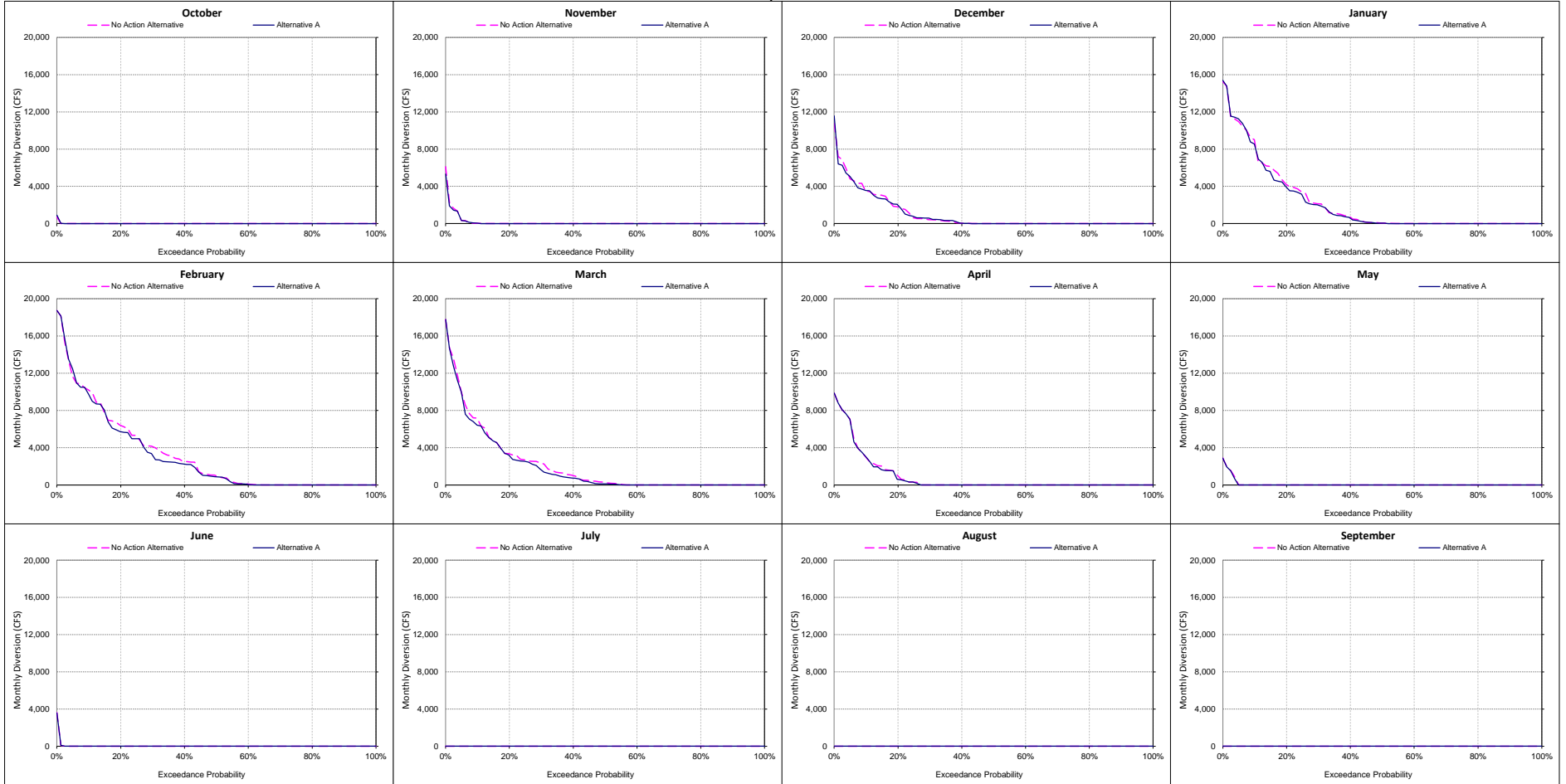


Table SW-52-3b
Tisdale Weir Spills into Suter Bypass, Monthly Diversion Probability of Exceedance

February					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	18736	18733	-3	0.0%	
1.2%	18159	18138	-21	-0.1%	
2.5%	15598	15598	247	1.6%	
3.7%	13328	13486	158	1.2%	
4.9%	11640	12457	817	7.0%	
6.2%	10925	10962	37	0.3%	
7.4%	10864	10513	-351	-3.2%	
8.6%	10452	10487	34	0.3%	
9.9%	10203	9767	-436	-4.3%	
11.1%	9890	9000	-890	-9.0%	
12.3%	8871	8714	-158	-1.8%	
13.6%	8858	8675	-182	-2.1%	
14.8%	7839	8072	233	3.0%	
16.0%	6949	6770	-179	-2.6%	
17.3%	6880	6099	-782	-11.4%	
18.5%	6738	5942	-796	-11.8%	
19.8%	6425	5724	-701	-10.9%	
21.0%	6243	5654	-589	-9.4%	
22.2%	6027	5633	-394	-6.5%	
23.5%	5332	4962	-370	-6.9%	
24.7%	5325	4955	-369	-6.9%	
25.9%	4823	4854	31	0.7%	
27.2%	4221	4085	-137	-3.2%	
28.4%	4202	3520	-682	-16.2%	
29.6%	4164	3358	-806	-19.4%	
30.9%	3976	2712	-1264	-31.8%	
32.1%	3709	2674	-1034	-27.9%	
33.3%	3409	2520	-889	-26.1%	
34.5%	3214	2488	-726	-22.6%	
35.8%	3121	2446	-676	-21.7%	
37.0%	2867	2413	-454	-15.8%	
38.3%	2787	2321	-466	-16.7%	
39.5%	2531	2246	-286	-11.3%	
40.7%	2503	2197	-305	-12.2%	
42.0%	2452	2197	-255	-10.4%	
43.2%	2444	1896	-548	-22.4%	
44.4%	1429	1369	-60	-4.2%	
45.7%	1202	1040	-162	-13.5%	
46.9%	1153	988	-166	-14.4%	
48.1%	1064	931	-133	-12.5%	
49.4%	1053	874	-179	-17.0%	
50.6%	866	850	-17	-1.9%	
51.9%	776	829	53	6.8%	
53.1%	754	657	-97	-12.9%	
54.3%	382	347	-35	-9.1%	
55.6%	274	144	-130	-47.5%	
56.8%	149	111	-38	-25.5%	
58.0%	137	109	-28	-20.4%	
59.3%	131	90	-41	-31.3%	
60.5%	53	35	-19	-35.8%	
61.7%	31	9	-22	-71.0%	
63.0%	21	0	-21	-100.0%	
64.2%	1	0	-1	-100.0%	
65.4%	0	0	0	0.0%	
66.7%	0	0	0	0.0%	
67.9%	0	0	0	0.0%	
69.1%	0	0	0	0.0%	
70.4%	0	0	0	0.0%	
71.6%	0	0	0	0.0%	
72.8%	0	0	0	0.0%	
74.1%	0	0	0	0.0%	
75.3%	0	0	0	0.0%	
76.5%	0	0	0	0.0%	
77.8%	0	0	0	0.0%	
79.0%	0	0	0	0.0%	
80.2%	0	0	0	0.0%	
81.5%	0	0	0	0.0%	
82.7%	0	0	0	0.0%	
84.0%	0	0	0	0.0%	
85.2%	0	0	0	0.0%	
86.4%	0	0	0	0.0%	
87.7%	0	0	0	0.0%	
88.9%	0	0	0	0.0%	
90.1%	0	0	0	0.0%	
91.4%	0	0	0	0.0%	
92.6%	0	0	0	0.0%	
93.8%	0	0	0	0.0%	
95.1%	0	0	0	0.0%	
96.3%	0	0	0	0.0%	
97.5%	0	0	0	0.0%	
98.8%	0	0	0	0.0%	
100.0%	0.0	0.0	0.0	0.0%	

March					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	17777	17777	0	0.0%	
1.2%	14705	14697	-8	-0.1%	
2.5%	13555	12770	-785	-5.8%	
3.7%	11791	11229	-562	-4.8%	
4.9%	9970	9961	-9	-0.1%	
6.2%	8585	7599	-986	-11.5%	
7.4%	7690	7076	-614	-8.0%	
8.6%	7209	6827	-382	-5.3%	
9.9%	7194	6422	-762	-10.6%	
11.1%	6322	6322	0	0.0%	
12.3%	6110	5570	-541	-8.8%	
13.6%	5093	5092	-1	0.0%	
14.8%	4819	4737	-83	-1.7%	
16.0%	4524	4526	2	0.1%	
17.3%	3954	3949	-5	-0.1%	
18.5%	3390	3385	-5	-0.1%	
19.8%	3359	3213	-146	-4.4%	
21.0%	3225	2742	-483	-15.0%	
22.2%	3184	2645	-538	-16.9%	
23.5%	2752	2582	-170	-6.2%	
24.7%	2704	2534	-170	-6.3%	
25.9%	131	2470	2359	18.0%	
27.2%	2543	2233	-310	-12.2%	
28.4%	2531	2081	-450	-17.8%	
29.6%	2375	1706	-669	-28.2%	
30.9%	2249	1371	-878	-39.0%	
32.1%	1701	1258	-443	-26.1%	
33.3%	1587	1137	-451	-28.5%	
34.5%	1365	1092	-272	-20.0%	
35.8%	1304	949	-355	-27.2%	
37.0%	1266	862	-404	-31.9%	
38.3%	1110	788	-322	-29.0%	
39.5%	1051	741	-310	-29.5%	
40.7%	936	727	-208	-22.2%	
42.0%	598	638	41	6.8%	
43.2%	508	404	-104	-20.5%	
44.4%	504	373	-131	-26.1%	
45.7%	416	267	-149	-35.9%	
46.9%	406	141	-265	-65.2%	
48.1%	333	129	-204	-61.3%	
49.4%	302	109	-193	-64.1%	
50.6%	217	108	-109	-50.2%	
51.9%	171	94	-77	-45.0%	
53.1%	156	83	-73	-47.0%	
54.3%	95	42	-53	-55.8%	
55.6%	33	0	-33	-100.0%	
56.8%	149	0	-149	-100.0%	
58.0%	0	0	0	0.0%	
59.3%	0	0	0	0.0%	
60.5%	0	0	0	0.0%	
61.7%	0	0	0	0.0%	
63.0%	0	0	0	0.0%	
64.2%	0	0	0	0.0%	
65.4%	0	0	0	0.0%	
66.7%	0	0	0	0.0%	
67.9%	0	0	0	0.0%	
69.1%	0	0	0	0.0%	
70.4%	0	0	0	0.0%	
71.6%	0	0	0	0.0%	
72.8%	0	0	0	0.0%	
74.1%	0	0	0	0.0%	
75.3%	0	0	0	0.0%	
76.5%	0	0	0	0.0%	
77.8%	0	0	0	0.0%	
79.0%	0	0	0	0.0%	
80.2%	0	0	0	0.0%	
81.5%	0	0	0	0.0%	
82.7%	0	0	0	0.0%	
84.0%	0	0	0	0.0%	
85.2%	0	0	0	0.0%	
86.4%	0	0	0	0.0%	
87.7%	0	0	0	0.0%	
88.9%	0	0	0	0.0%	
90.1%	0	0	0	0.0%	
91.4%	0	0	0	0.0%	
92.6%	0	0	0	0.0%	
93.8%	0	0	0	0.0%	
95.1%	0	0	0	0.0%	
96.3%	0	0	0	0.0%	
97.5%	0	0	0	0.0%	
98.8%	0	0	0	0.0%	
100.0%	0.0	0.0	0.0	0.0%	

April					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	17777	9859	-16	-0.2%	
1.2%	8796	8798	2	0.0%	
2.5%	6066	6069	24	0.3%	
3.7%	7657	7658	1	0.0%	
4.9%	7057	7056	-1	0.0%	
6.2%	4953	4632	-322	-6.5%	
7.4%	3949	3949	0	0.0%	
8.6%	3511	3515	4	0.1%	
9.9%	3009	3017	8	0.3%	
11.1%	2471	2533	63	2.5%	
12.3%	2286	1938	-348	-15.2%	
13.6%	2059	1930	-128	-6.2%	
14.8%	2027	1615	-412	-20.3%	
16.0%	1642	1537	-105	-6.4%	
17.3%	1579	1530	-49	-3.1%	
18.5%	1525	1528	3	0.2%	
19.8%	1066	591	-476	-44.6%	
21.0%	595	556	-40	-6.7%	
22.2%	547	424	-123	-22.4%	
23.5%	310	307	-3	-0.8%	
24.7%	305	302	-2	-0.7%	
25.9%	274	170	-104	-37.9%	
27.2%	7	4	-3	-42.9%	
28.4%	0	0	0	0.0%	
29.6%	0	0	0	0.0%	
30.9%	0	0	0	0.0%	
32.1%	0	0	0	0.0%	
33.3%	0	0	0	0.0%	
34.5%	0	0	0	0.0%	
35.8%	0	0	0	0.0%	
37.0%	0	0	0	0.0%	
38.3%	0	0	0	0.0%	
39.5%	0	0	0	0.0%	
40.7%	0	0	0	0.0%	
42.0%	0	0	0	0.0%	
43.2%	0	0	0	0.0%	
44.4%	0	0	0	0.0%	
45.7%	0	0	0	0.0%	
46.9%	0	0	0	0.0%	
48.1%	0	0	0	0.0%	
49.4%	0	0	0	0.0%	
50.6%	0	0	0	0.0%	
51.9%	0	0	0	0.0%	
53.1%	0	0	0	0.0%	
54.3%	0	0	0	0.0%	
55.6%	0	0	0	0.0%	
56.8%	0	0	0	0.0%	
58.0%	0	0	0	0.0%	
59.3%	0	0	0	0.0%	
60.5%	0	0	0	0.0%	
61.7%	0	0	0	0.0%	
63.0%	0	0	0	0.0%	
64.2%	0	0	0	0.0%	
65.4%	0	0	0	0.0%	
66.7%	0	0	0	0.0%	
67.9%	0	0	0	0.0%	
69.1%	0	0	0	0.0%	
70.4%	0	0	0	0.0%	
71.6%	0	0	0	0.0%	
72.8%	0	0	0	0.0%	
74.1%	0	0	0	0.0%	
75.3%	0	0	0	0.0%	
76.5%	0	0	0	0.0%	
77.8%	0	0	0	0.0%	
79.0%	0	0	0	0.0%	
80.2%	0	0	0	0.0%	
81.5%	0	0	0	0.0%	
82.7%	0	0	0	0.0%	
84.0%	0	0	0	0.0%	
85.2%	0	0	0	0.0%	
86.4%	0	0	0	0.0%	
87.7%	0	0	0	0.0%	
88.9%	0	0	0	0.0%	
90.1%	0	0	0	0.0%	
91.4%	0	0	0	0.0%	
92.6%	0	0	0	0.0%	
93.8%	0	0	0	0.0%	
95.1%	0	0	0	0.0%	
96.3%	0	0	0	0.0%	
97.5%	0	0	0	0.0%	
98.8%	0	0	0	0.0%	
100.0%	0.0	0.0	0.0	0.0%	

May					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative A Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	2892				

Table SW-52-3b
Tisdale Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

June				
Percent Exceedance Probability (%)	No Action Alternative	Alternative A	Absolute Difference (CFS)	Relative Difference (%)
	Monthly Diversion (CFS)	Monthly Diversion (CFS)		
0.0%	3625	3567	-58	-1.6%
1.2%	97	93	-3	-3.6%
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

July				
Percent Exceedance Probability (%)	No Action Alternative	Alternative A	Absolute Difference (CFS)	Relative Difference (%)
	Monthly Diversion (CFS)	Monthly Diversion (CFS)		
0.0%	0	0	0	
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

August				
Percent Exceedance Probability (%)	No Action Alternative	Alternative A	Absolute Difference (CFS)	Relative Difference (%)
	Monthly Diversion (CFS)	Monthly Diversion (CFS)		
0.0%	0	0	0	
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

September				
Percent Exceedance Probability (%)	No Action Alternative	Alternative A	Absolute Difference (CFS)	Relative Difference (%)
	Monthly Diversion (CFS)	Monthly Diversion (CFS)		
0.0%	0	0	0	
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0		

Alternative B Compared to No Action Alternative

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Table SW-49-5a
 Ord Ferry Spills into Sutter Bypass, Monthly Diversion
 Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Full Simulation Period¹												
No Action Alternative	0	0	63	257	431	189	14	0	0	0	0	0
Alternative B	0	0	68	232	399	174	11	0	0	0	0	0
Difference	0	0	5	-25	-32	-15	-2	0	0	0	0	0
Percent Difference ³			8.4%	-9.8%	-7.3%	-8.0%	-16.9%					
Water Year Types²												
Wet (32%)												
No Action Alternative	0	0	29	779	1213	554	34	0	0	0	0	0
Alternative B	0	0	36	717	1136	517	29	0	0	0	0	0
Difference	0	0	7	-62	-77	-38	-5	0	0	0	0	0
Percent Difference			22.7%	-7.9%	-6.4%	-6.8%	-15.4%					
Above Normal (15%)												
No Action Alternative	0	0	1	68	316	88	19	0	0	0	0	0
Alternative B	0	0	8	30	268	67	14	0	0	0	0	0
Difference	0	0	7	-38	-48	-21	-4	0	0	0	0	0
Percent Difference				-55.9%	-15.2%	-23.8%	-22.8%					
Below Normal (17%)												
No Action Alternative	0	0	123	0	0	0	0	0	0	0	0	0
Alternative B	0	0	153	0	0	0	0	0	0	0	0	0
Difference	0	0	30	0	0	0	0	0	0	0	0	0
Percent Difference			24.1%									
Dry (22%)												
No Action Alternative	0	0	147	0	0	0	0	0	0	0	0	0
Alternative B	0	0	134	0	0	0	0	0	0	0	0	0
Difference	0	0	-13	0	0	0	0	0	0	0	0	0
Percent Difference			-9.1%									
Critical (15%)												
No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0
Alternative B	0	0	0	0	0	0	0	0	0	0	0	0
Difference	0	0	0	0	0	0	0	0	0	0	0	0
Percent Difference												

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

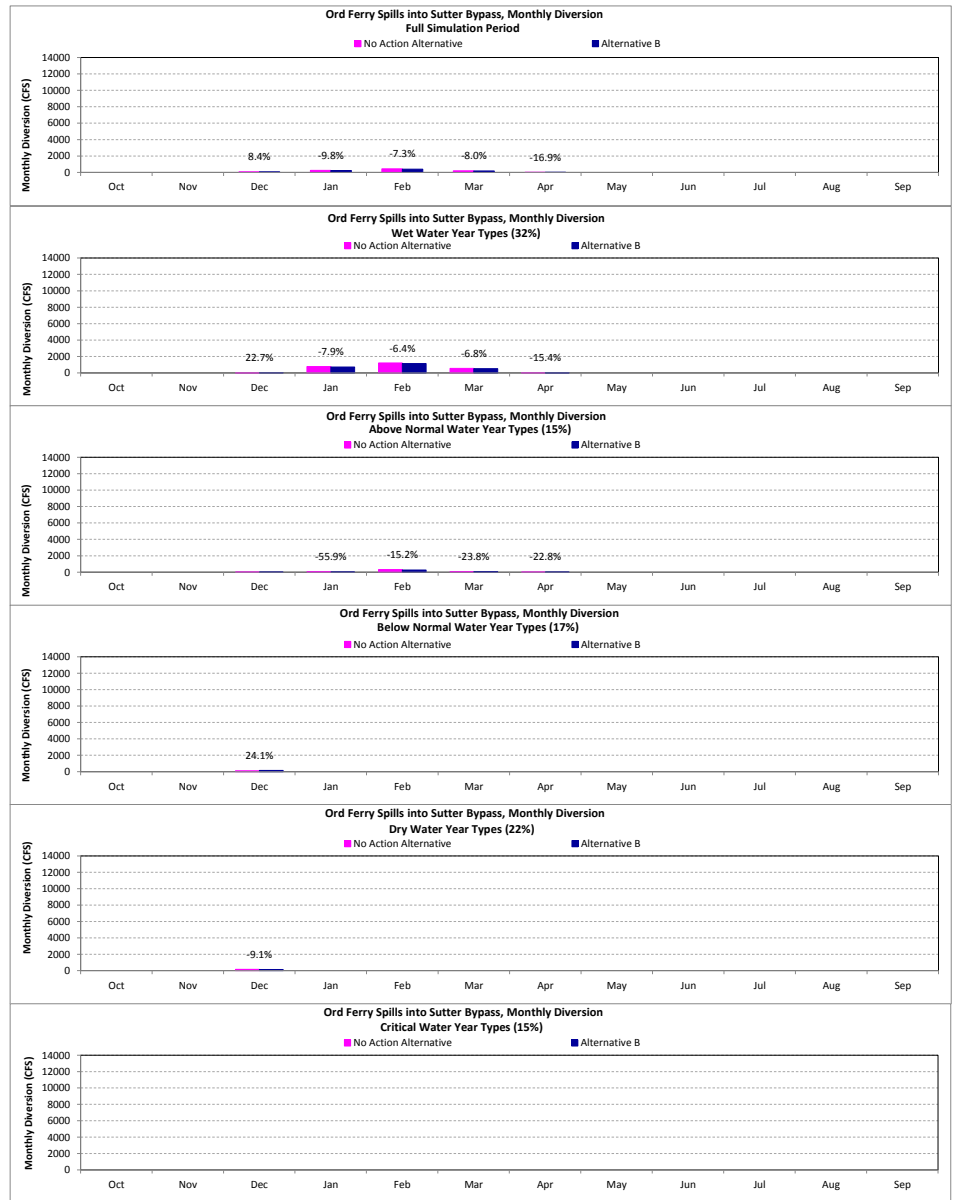


Figure SW-49-5b
Ord Ferry Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

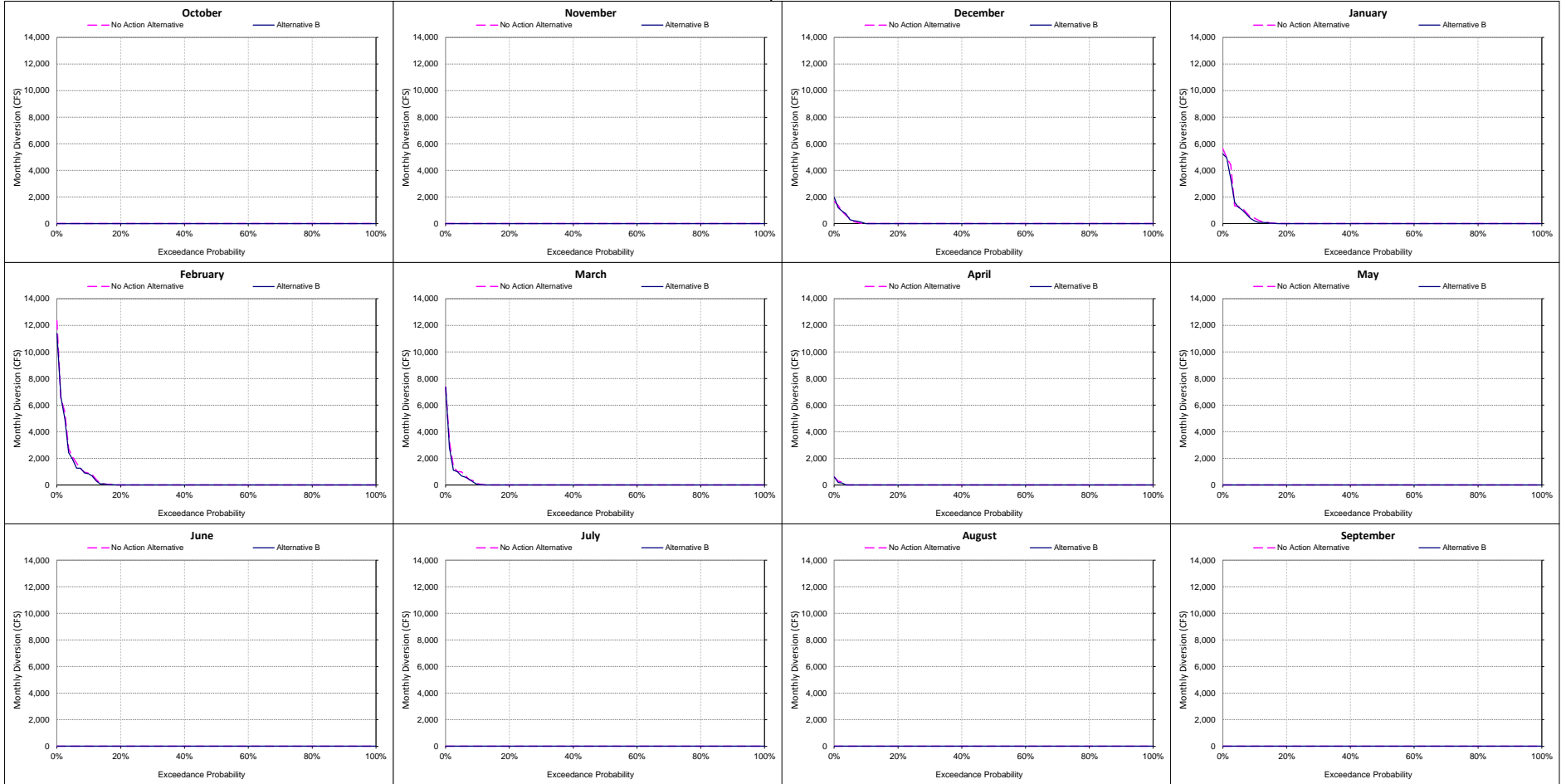


Table SW-49-5b
Ord Ferry Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

October					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	0	0	0		
1.2%	0	0	0		
2.5%	0	0	0		
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

November					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	0	0	0		
1.2%	0	0	0		
2.5%	0	0	0		
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

December					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	1659	1973	314	18.9%	
1.2%	1365	1186	-179	-13.1%	
2.5%	907	937	30	3.3%	
3.7%	617	722	106	17.1%	
4.9%	377	284	-93	-24.7%	
6.2%	150	218	68	45.4%	
7.4%	70	172	102	145.9%	
8.6%	6	91	84		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

January					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	5633	5253	-381	-6.8%	
1.2%	4996	4949	-47	-0.1%	
2.5%	4426	3392	-1104	-23.4%	
3.7%	1331	1595	264	19.8%	
4.9%	1271	1221	-50	-3.9%	
6.2%	1147	1018	-129	-11.2%	
7.4%	807	704	-102	-12.7%	
8.6%	492	395	-97	-19.6%	
9.9%	408	206	-202	-49.6%	
11.1%	255	85	-171	-66.8%	
12.3%	135	84	-51	-37.8%	
13.6%	131	71	-60	-45.7%	
14.8%	29	23	-6	-20.0%	
16.0%	25	3	-22	-86.5%	
17.3%	21	0	-21	-100.0%	
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9					

Table SW-49-5b
Ord Ferry Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

February					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	12366	11394	-972	-7.9%	
1.2%	6536	6618	81	1.2%	
2.5%	5493	4849	-644	-9.3%	
3.7%	2709	2445	-263	-9.7%	
4.9%	2095	1921	-175	-8.3%	
6.2%	1642	1267	-375	-22.8%	
7.4%	1220	1262	43	3.5%	
8.6%	957	895	-62	-6.5%	
9.9%	809	837	28	3.5%	
11.1%	763	665	-98	-12.8%	
12.3%	391	293	-99	-25.2%	
13.6%	120	77	-43	-35.8%	
14.8%	63	75	12	19.3%	
16.0%	50	30	-20	-40.6%	
17.3%	41	23	-18	-44.5%	
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

March					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	7360	7359	-1	0.0%	
1.2%	3196	2800	-396	-12.4%	
2.5%	1360	1097	-263	-18.7%	
3.7%	994	993	0	0.0%	
4.9%	987	679	-308	-31.2%	
6.2%	737	585	-152	-20.6%	
7.4%	383	425	41	10.8%	
8.6%	322	222	-100	-31.1%	
9.9%	91	47	-44	-48.7%	
11.1%	49	29	-20	-40.6%	
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

April					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	608	607	0	0.0%	
1.2%	285	173	-111	-39.1%	
2.5%	225	148	-77	-34.3%	
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

May					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	0	0	0		
1.2%	0	0	0		
2.5%	0	0	0		
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%					

Table SW-50-5a
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Long-term											
Full Simulation Period¹												
No Action Alternative	0	0	59	283	467	240	32	0	0	0	0	0
Alternative B	0	0	67	265	439	216	27	0	0	0	0	0
Difference	0	0	8	-19	-28	-24	-5	0	0	0	0	0
Percent Difference ³			13.9%	-6.5%	-6.0%	-9.9%	-14.6%					
Water Year Types²												
Wet (32%)												
No Action Alternative	0	0	42	829	1367	690	83	0	0	0	0	0
Alternative B	0	0	49	789	1294	633	71	0	0	0	0	0
Difference	0	0	8	-40	-73	-57	-12	0	0	0	0	0
Percent Difference			18.3%	-4.9%	-5.3%	-8.3%	-14.0%					
Above Normal (15%)												
No Action Alternative	0	0	7	139	229	147	38	0	0	0	0	0
Alternative B	0	0	15	98	190	108	32	0	0	0	0	0
Difference	0	0	9	-41	-38	-39	-7	0	0	0	0	0
Percent Difference			130.4%	-29.4%	-16.7%	-26.5%	-17.4%					
Below Normal (17%)												
No Action Alternative	0	0	94	1	0	0	0	0	0	0	0	0
Alternative B	0	0	115	3	6	0	0	0	0	0	0	0
Difference	0	0	21	1	6	0	0	0	0	0	0	0
Percent Difference			22.0%	107.8%								
Dry (22%)												
No Action Alternative	0	0	130	0	0	0	0	0	0	0	0	0
Alternative B	0	0	134	0	0	0	0	0	0	0	0	0
Difference	0	0	4	0	0	0	0	0	0	0	0	0
Percent Difference			3.2%									
Critical (15%)												
No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0
Alternative B	0	0	0	0	0	0	0	0	0	0	0	0
Difference	0	0	0	0	0	0	0	0	0	0	0	0
Percent Difference												

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

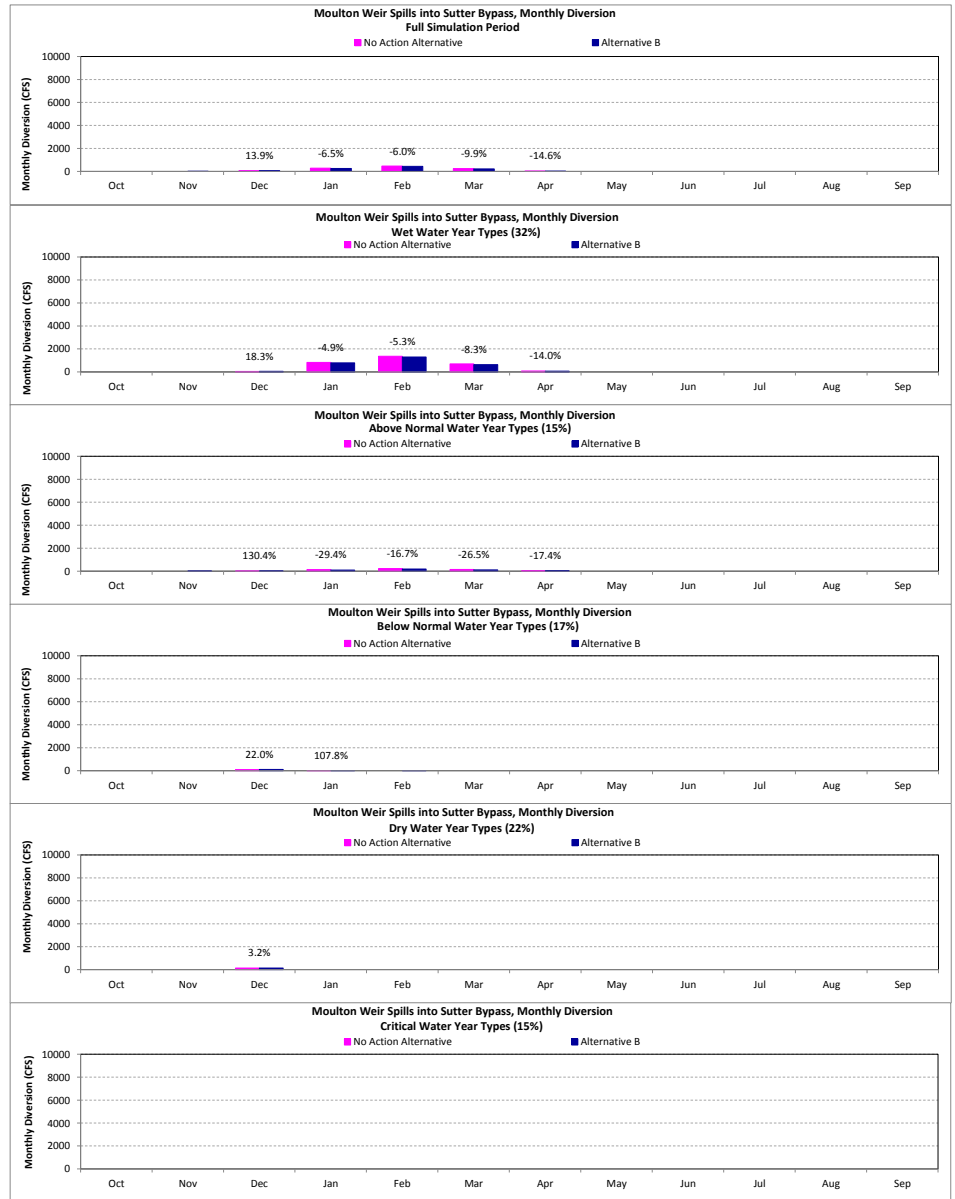


Figure SW-50-5b
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

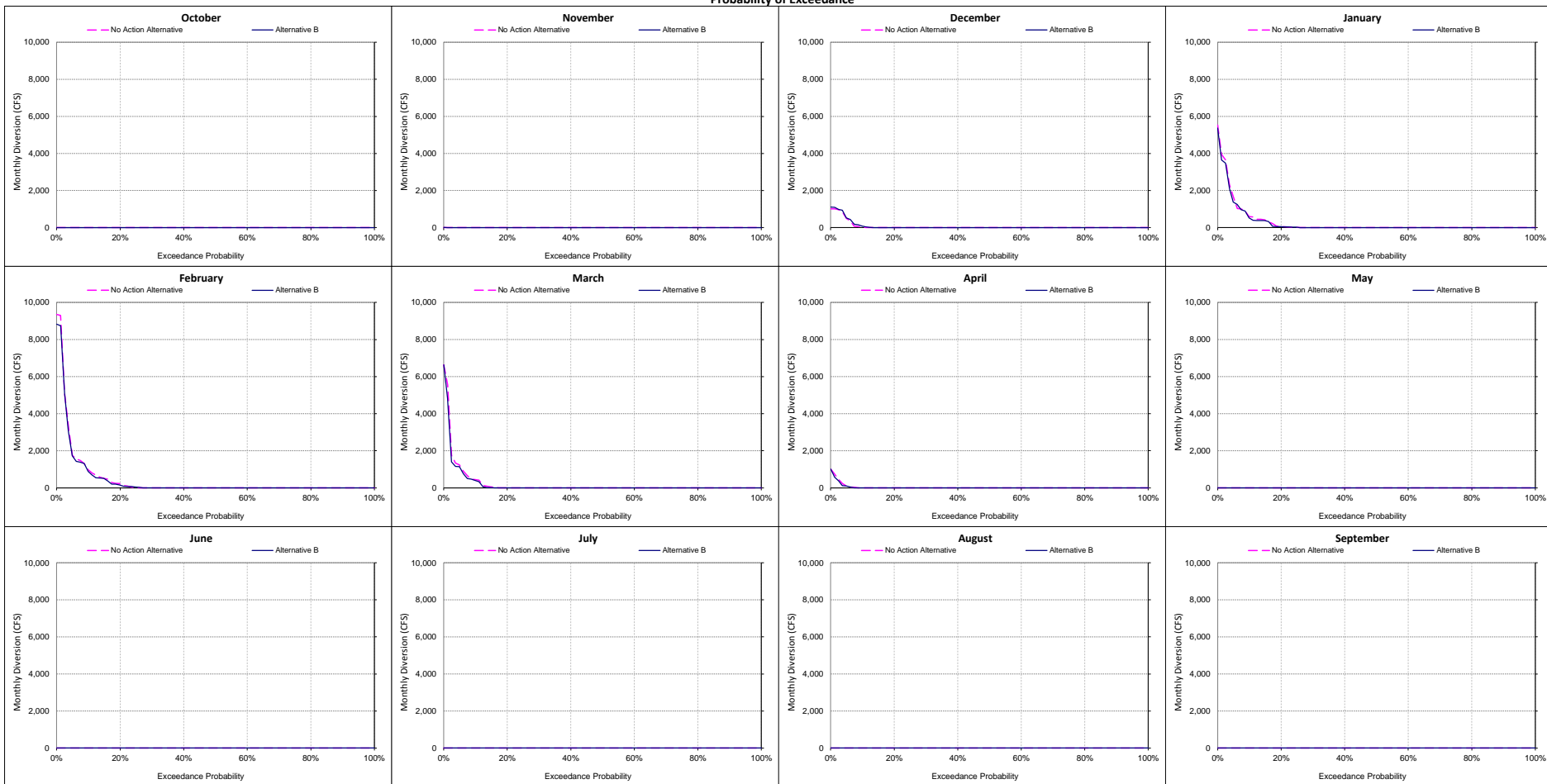


Table SW-50-5b
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

October				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	0	0	0	
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

November				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	0	1	1	
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

December				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	1010	1101	90	9.0%
1.2%	1009	1086	77	7.7%
2.5%	969	978	9	0.9%
3.7%	839	832	-9	-1.1%
4.9%	494	523	30	6.0%
6.2%	351	434	83	23.6%
7.4%	74	179	105	140.8%
8.6%	53	145	92	175.3%
9.9%	29	75	48	170.6%
11.1%	0	36	36	
12.3%	0	6	6	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

January				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	5535	5366	-169	-3.1%
1.2%	3947	3652	-296	-7.5%
2.5%	3463	3468	5	0.1%
3.7%	2312	2104	-208	-9.0%
4.9%	1658	1373	-285	-17.2%
6.2%	1025	1255	230	22.4%
7.4%	1003	967	-36	-3.6%
8.6%	890	893	3	0.4%
9.9%	594	525	-69	-11.6%
11.1%	571	389	-182	-31.9%
12.3%	446	379	-66	-14.9%
13.6%	444	376	-68	-15.3%
14.8%	414	375	-39	-9.5%
16.0%	309	323	14	4.6%
17.3%	213	66	-147	-69.1%
18.5%	77	46	-32	-40.7%
19.8%	53	45	-8	-14.6%
21.0%	47	38	-9	-18.8%
22.2%	26	37	11	41.3%
23.5%	18	28	10	56.5%
24.7%	10	21	11	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.				

Table SW-50-5b
Moulton Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

February					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	9355	8833	-522	-5.6%	
1.2%	9304	8740	-564	-6.1%	
2.5%	5144	5086	-58	-1.1%	
3.7%	3323	3070	-253	-7.6%	
4.9%	1751	1732	-19	-1.1%	
6.2%	1559	1433	-126	-8.1%	
7.4%	1482	1381	-101	-6.8%	
8.6%	1317	1315	-2	-0.1%	
9.9%	976	880	-96	-9.8%	
11.1%	806	701	-105	-13.0%	
12.3%	682	541	-141	-20.7%	
13.6%	574	529	-45	-7.9%	
14.8%	510	517	6	1.2%	
16.0%	466	374	-91	-19.6%	
17.3%	230	206	-24	-10.4%	
18.5%	239	198	-40	-16.8%	
19.8%	236	158	-78	-33.1%	
21.0%	118	93	-24	-20.7%	
22.2%	101	78	-24	-23.5%	
23.5%	38	67	29	74.4%	
24.7%	14	46	32		
25.9%	0	26	26		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

March					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	6639	6638	-1	0.0%	
1.2%	5565	4842	-723	-13.0%	
2.5%	1750	1401	-349	-19.9%	
3.7%	1332	1154	-178	-13.4%	
4.9%	1238	1138	-100	-8.1%	
6.2%	899	764	-135	-15.0%	
7.4%	664	497	-167	-25.1%	
8.6%	469	469	0	0.0%	
9.9%	443	404	-40	-9.0%	
11.1%	412	333	-79	-19.2%	
12.3%	124	59	-65	-52.6%	
13.6%	87	19	-68	-78.0%	
14.8%	47	15	-33	-69.3%	
16.0%	34	8	-27	-77.7%	
17.3%	1	6	6		
18.5%	0	-1	-1		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

April					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	1015	1016	0	0.0%	
1.2%	737	576	-162	-21.9%	
2.5%	453	378	-75	-17.4%	
3.7%	227	116	-111	-48.9%	
4.9%	96	96	0	-0.1%	
6.2%	40	40	0	-0.1%	
7.4%	36	7	-28	-79.4%	
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

May					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	0	0	0		
1.2%	0	0	0		
2.5%	0	0	0		
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		
19.8%	0	0	0		
21.0%	0	0	0		
22.2%	0	0	0		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		

Table SW-51-5a
Colusa Weir Spills into Sutter Bypass, Monthly Diversion
Long-term Average and Average by Water Year Type

Analysis Period	Monthly Diversion (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Long-term											
Full Simulation Period¹												
No Action Alternative	7	126	1329	3917	5723	3523	1174	68	19	0	0	0
Alternative B	9	128	1434	3845	5456	3232	1080	54	18	0	0	0
Difference	3	1	105	-72	-267	-290	-94	-14	-1	0	0	0
Percent Difference ²			7.9%	-1.8%	-4.7%	-8.2%	-8.0%					
Water Year Types³												
Wet (32%)												
No Action Alternative	0	35	1292	9956	14022	8607	3195	128	61	0	0	0
Alternative B	0	62	1399	10021	13729	8104	2943	103	58	0	0	0
Difference	0	27	107	65	-293	-503	-252	-25	-3	0	0	0
Percent Difference			8.3%	0.7%	-2.1%	-5.8%	-7.9%					
Above Normal (15%)												
No Action Alternative	0	589	1240	3961	5888	4959	997	187	0	0	0	0
Alternative B	0	553	1192	3486	5371	4347	927	149	0	0	0	0
Difference	0	-36	-48	-475	-517	-612	-70	-38	0	0	0	0
Percent Difference		-6.1%	-3.9%	-12.0%	-8.8%	-12.3%	-7.1%	-20.4%				
Below Normal (17%)												
No Action Alternative	40	75	1613	716	1433	83	89	0	0	0	0	0
Alternative B	55	75	1838	709	1080	16	68	0	0	0	0	0
Difference	15	0	226	-7	-353	-67	-21	0	0	0	0	0
Percent Difference	37.4%	0.4%	14.0%	-1.0%	-24.7%	-80.2%	-24.0%					
Dry (22%)												
No Action Alternative	0	75	2090	256	788	245	0	0	0	0	0	0
Alternative B	0	65	2269	163	599	108	0	0	0	0	0	0
Difference	0	-10	179	-93	-169	-137	0	0	0	0	0	0
Percent Difference		-13.3%	8.6%	-36.3%	-22.1%	-55.9%						
Critical (15%)												
No Action Alternative	0	0	29	14	13	0	0	0	0	0	0	0
Alternative B	0	0	29	3	9	0	0	0	0	0	0	0
Difference	0	0	0	-11	-4	0	0	0	0	0	0	0
Percent Difference			-1.0%	-79.5%	-32.8%							

1 Based on the 62-year simulation period

2 As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)

3 Relative difference of the monthly average

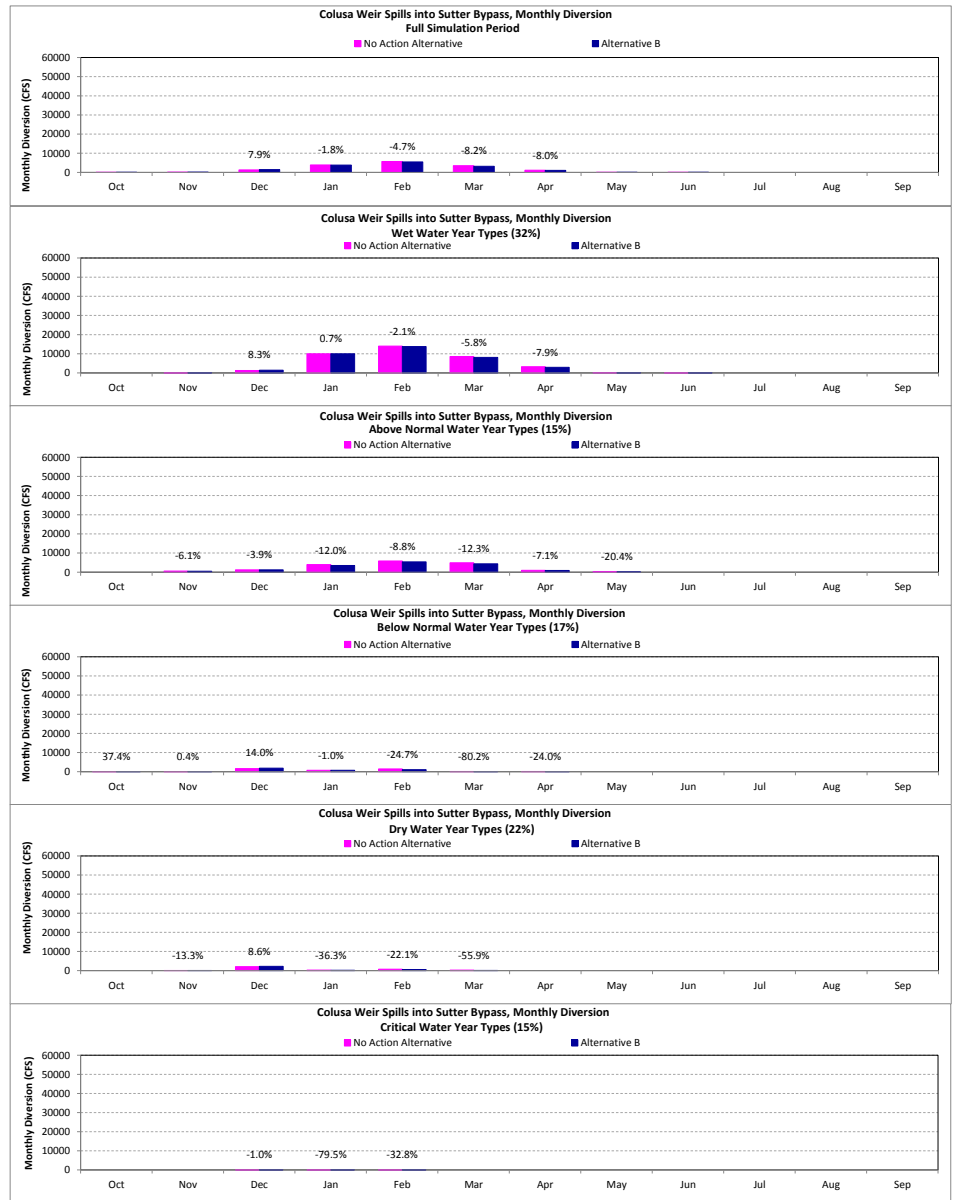


Figure SW-51-5b
Colusa Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

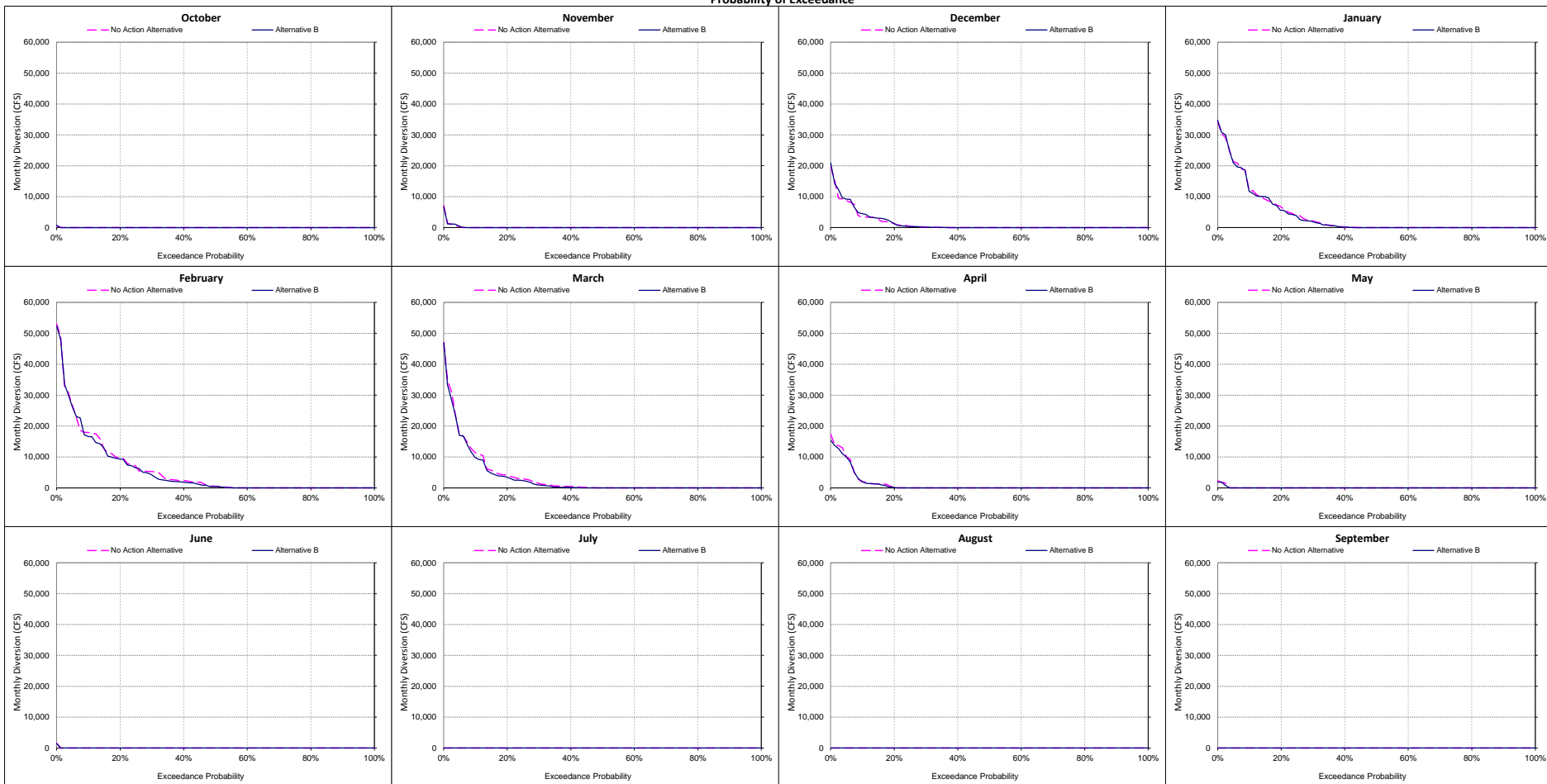


Table SW-51-5b
Colusa Weir Spills into Sutter Bypass, Monthly Diversion
Probability of Exceedance

October				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	559	768	209	37.4%
1.2%	0	0	0	
2.5%	0	0	0	
3.7%	0	0	0	
4.9%	0	0	0	
6.2%	0	0	0	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
55.8%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

November				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	7065	6633	-432	-6.1%
1.2%	1342	1188	-154	-11.5%
2.5%	1052	1164	112	10.6%
3.7%	585	1056	471	80.4%
4.9%	318	345	26	8.3%
6.2%	0	77	77	
7.4%	0	0	0	
8.6%	0	0	0	
9.9%	0	0	0	
11.1%	0	0	0	
12.3%	0	0	0	
13.6%	0	0	0	
14.8%	0	0	0	
16.0%	0	0	0	
17.3%	0	0	0	
18.5%	0	0	0	
19.8%	0	0	0	
21.0%	0	0	0	
22.2%	0	0	0	
23.5%	0	0	0	
24.7%	0	0	0	
25.9%	0	0	0	
27.2%	0	0	0	
28.4%	0	0	0	
29.6%	0	0	0	
30.9%	0	0	0	
32.1%	0	0	0	
33.3%	0	0	0	
34.5%	0	0	0	
35.8%	0	0	0	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
55.8%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

December				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	19690	20915	1225	6.2%
1.2%	15339	14219	-1119	-7.3%
2.5%	9438	12230	2792	29.6%
3.7%	8260	9567	407	4.9%
4.9%	8690	9226	536	6.2%
6.2%	8205	9107	902	11.0%
7.4%	7529	6528	-1001	-13.3%
8.6%	3842	4817	974	25.4%
9.9%	3410	4511	1101	32.3%
11.1%	3381	4242	861	25.5%
12.3%	3364	3392	29	0.8%
13.6%	3262	3209	-53	-1.6%
14.8%	2761	3028	267	9.7%
16.0%	1997	2925	928	46.4%
17.3%	1931	2692	761	39.4%
18.5%	1632	2157	525	32.1%
19.8%	1364	1377	12	0.9%
21.0%	840	755	-86	-10.2%
22.2%	727	520	-206	-28.4%
23.5%	722	478	-244	-33.8%
24.7%	444	335	-108	-24.4%
25.9%	338	326	-12	-3.6%
27.2%	270	261	-9	-3.3%
28.4%	167	243	76	45.8%
29.6%	136	165	29	21.2%
30.9%	96	114	18	18.9%
32.1%	79	74	-5	-6.9%
33.3%	72	49	-22	-30.9%
34.5%	7	14	6	
35.8%	0	7	7	
37.0%	0	0	0	
38.3%	0	0	0	
39.5%	0	0	0	
40.7%	0	0	0	
42.0%	0	0	0	
43.2%	0	0	0	
44.4%	0	0	0	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
55.8%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%	0	0	0	
67.9%	0	0	0	
69.1%	0	0	0	
70.4%	0	0	0	
71.6%	0	0	0	
72.8%	0	0	0	
74.1%	0	0	0	
75.3%	0	0	0	
76.5%	0	0	0	
77.8%	0	0	0	
79.0%	0	0	0	
80.2%	0	0	0	
81.5%	0	0	0	
82.7%	0	0	0	
84.0%	0	0	0	
85.2%	0	0	0	
86.4%	0	0	0	
87.7%	0	0	0	
88.9%	0	0	0	
90.1%	0	0	0	
91.4%	0	0	0	
92.6%	0	0	0	
93.8%	0	0	0	
95.1%	0	0	0	
96.3%	0	0	0	
97.5%	0	0	0	
98.8%	0	0	0	
100.0%	0.0	0.0	0.0	

January				
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)
0.0%	34396	34830	434	1.3%
1.2%	30467	30895	428	1.4%
2.5%	29120	30022	902	3.1%
3.7%	24958	24876	-82	-0.2%
4.9%	21295	21019	-276	-1.3%
6.2%	20927	19619	-1307	-6.2%
7.4%	19015	19402	387	2.0%
8.6%	18640	18486	-155	-0.8%
9.9%	11980	11751	-229	-1.9%
11.1%	11866	10964	-903	-8.3%
12.3%	10544	10245	-300	-2.8%
13.6%	10025	10055	31	0.3%
14.8%	9226	10037	810	8.8%
16.0%	8577	9567	991	11.5%
17.3%	8270	7586	-684	-8.3%
18.5%	7295	7190	-105	-1.6%
19.8%	6835	5622	-1214	-17.8%
21.0%	5815	5490	-325	-5.6%
22.2%	4988	4439	-549	-11.0%
23.5%	4592	4247	-346	-7.5%
24.7%	3793	3865	72	1.9%
25.9%	3388	2490	-1898	-54.3%
27.2%	2797	2286	-511	-18.3%
28.4%	2342	2146	-196	-8.4%
29.6%	2254	1973	-281	-12.5%
30.9%	1865	1586	-278	-14.9%
32.1%	1582	1351	-232	-14.6%
33.3%	1094	796	-298	-23.0%
34.5%	821	773	-48	-5.9%
35.8%	691	614	-77	-11.1%
37.0%	493	574	81	16.5%
38.3%	283	198	-85	-30.0%
39.5%	244	141	-103	-42.1%
40.7%	122	126	3	
42.0%	97	35	-62	
43.2%	75	0	-75	
44.4%	10	0	-10	
45.7%	0	0	0	
46.9%	0	0	0	
48.1%	0	0	0	
49.4%	0	0	0	
50.6%	0	0	0	
51.9%	0	0	0	
53.1%	0	0	0	
54.3%	0	0	0	
55.6%	0	0	0	
55.8%	0	0	0	
56.8%	0	0	0	
58.0%	0	0	0	
59.3%	0	0	0	
60.5%	0	0	0	
61.7%	0	0	0	
63.0%	0	0	0	
64.2%	0	0	0	
65.4%	0	0	0	
66.7%				

Table SW-51-5b
 Colusa Weir Spills into Sutter Bypass, Monthly Diversion
 Probability of Exceedance

February					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	53046	52404	-641	-1.2%	
1.2%	48189	48022	-166	-2.4%	
2.5%	33033	33472	434	1.3%	
3.7%	30755	30168	-586	-1.9%	
4.9%	26703	26287	-416	-1.6%	
6.2%	22915	23094	178	0.8%	
7.4%	18664	22591	3927	21.0%	
8.6%	17950	17226	-724	-4.0%	
9.9%	17925	16632	-1292	-7.2%	
11.1%	17625	16529	-1096	-6.2%	
12.3%	17461	14677	-2784	-15.9%	
13.6%	15972	14328	-1644	-10.3%	
14.8%	12659	13058	399	3.1%	
16.0%	11444	10319	-1125	-9.8%	
17.3%	11105	9699	-1137	-10.2%	
18.5%	9984	9874	-409	-4.1%	
19.8%	9724	9370	-354	-3.6%	
21.0%	9497	9153	-344	-3.6%	
22.2%	7924	7403	-521	-6.6%	
23.5%	7401	7219	-181	-2.4%	
24.7%	7267	6480	-787	-10.8%	
25.9%	5435	6245	810	14.9%	
27.2%	5428	5016	-412	-7.6%	
28.4%	5342	4888	-454	-8.5%	
29.6%	5275	4375	-901	-17.1%	
30.9%	5208	3521	-1687	-32.4%	
32.1%	4843	2776	-2068	-43.9%	
33.3%	3667	2605	-1061	-28.9%	
34.5%	2783	2444	-339	-12.2%	
35.8%	2667	2115	-552	-20.7%	
37.0%	2603	2023	-580	-22.3%	
38.3%	2391	1997	-394	-16.5%	
39.5%	2311	1851	-460	-19.9%	
40.7%	2307	1682	-625	-27.1%	
42.0%	1990	1638	-352	-17.7%	
43.2%	1940	1541	-398	-20.5%	
44.4%	1906	1232	-674	-35.4%	
45.7%	1681	838	-843	-50.1%	
46.9%	983	834	-149	-15.1%	
48.1%	553	465	-88	-15.9%	
49.4%	534	426	-108	-20.2%	
50.6%	498	398	-100	-20.1%	
51.9%	290	281	-9	-3.2%	
53.1%	160	144	-16		
54.3%	145	108	-37		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

March					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	46969	46966	-2	0.0%	
1.2%	34582	33273	-1310	-3.8%	
2.5%	31132	28523	-2609	-8.4%	
3.7%	23411	23341	-70	-0.3%	
4.9%	17043	16994	-49	-0.3%	
6.2%	16703	16788	85	0.5%	
7.4%	14755	13859	-896	-6.1%	
8.6%	12737	11669	-1068	-8.4%	
9.9%	11398	9854	-1544	-13.5%	
11.1%	10899	9189	-1710	-15.7%	
12.3%	10493	8984	-1509	-14.4%	
13.6%	6055	5538	-517	-8.5%	
14.8%	5729	4761	-968	-16.9%	
16.0%	5270	4281	-989	-18.8%	
17.3%	4505	3636	-869	-14.8%	
18.5%	4280	3797	-483	-11.3%	
19.8%	4180	3500	-680	-16.3%	
21.0%	3669	3037	-632	-17.2%	
22.2%	3346	2473	-873	-26.1%	
23.5%	3001	2454	-547	-18.2%	
24.7%	2925	2416	-508	-17.4%	
25.9%	810	2121	1311	163.1%	
27.2%	2475	1777	-698	-28.2%	
28.4%	1861	1243	-618	-33.2%	
29.6%	1574	917	-656	-41.7%	
30.9%	1139	852	-287	-25.2%	
32.1%	1074	684	-390	-36.3%	
33.3%	917	611	-306	-33.4%	
34.5%	654	305	-349	-53.3%	
35.8%	590	267	-323	-54.8%	
37.0%	571	216	-356	-62.2%	
38.3%	477	165	-312	-65.5%	
39.5%	421	157	-265	-62.8%	
40.7%	400	126	-274	-68.4%	
42.0%	369	66	-303	-82.2%	
43.2%	202	0	-202	-100.0%	
44.4%	196	0	-196	-100.0%	
45.7%	48	0	-48		
46.9%	39	0	-39		
48.1%	1	0	-1		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

April					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	17385	15410	-1975	-11.4%	
1.2%	13969	13675	-293	-2.1%	
2.5%	13675	12098	-867	-2.2%	
3.7%	12666	11009	-1856	-15.1%	
4.9%	10049	10055	6	0.1%	
6.2%	9208	8349	-859	-9.3%	
7.4%	5026	5025	-1	0.0%	
8.6%	2869	2867	118	4.1%	
9.9%	1890	2038	148	7.8%	
11.1%	1857	1432	-425	-22.9%	
12.3%	1459	1343	-115	-7.9%	
13.6%	1283	1259	-24	-1.9%	
14.8%	1259	1248	-11	-0.8%	
16.0%	1251	951	-300	-24.0%	
17.3%	1206	712	-494	-41.0%	
18.5%	659	230	-429	-65.1%	
19.8%	213	167	-46	-21.6%	
21.0%	48	0	-48		
22.2%	10	0	-10		
23.5%	0	0	0		
24.7%	0	0	0		
25.9%	0	0	0		
27.2%	0	0	0		
28.4%	0	0	0		
29.6%	0	0	0		
30.9%	0	0	0		
32.1%	0	0	0		
33.3%	0	0	0		
34.5%	0	0	0		
35.8%	0	0	0		
37.0%	0	0	0		
38.3%	0	0	0		
39.5%	0	0	0		
40.7%	0	0	0		
42.0%	0	0	0		
43.2%	0	0	0		
44.4%	0	0	0		
45.7%	0	0	0		
46.9%	0	0	0		
48.1%	0	0	0		
49.4%	0	0	0		
50.6%	0	0	0		
51.9%	0	0	0		
53.1%	0	0	0		
54.3%	0	0	0		
55.6%	0	0	0		
56.8%	0	0	0		
58.0%	0	0	0		
59.3%	0	0	0		
60.5%	0	0	0		
61.7%	0	0	0		
63.0%	0	0	0		
64.2%	0	0	0		
65.4%	0	0	0		
66.7%	0	0	0		
67.9%	0	0	0		
69.1%	0	0	0		
70.4%	0	0	0		
71.6%	0	0	0		
72.8%	0	0	0		
74.1%	0	0	0		
75.3%	0	0	0		
76.5%	0	0	0		
77.8%	0	0	0		
79.0%	0	0	0		
80.2%	0	0	0		
81.5%	0	0	0		
82.7%	0	0	0		
84.0%	0	0	0		
85.2%	0	0	0		
86.4%	0	0	0		
87.7%	0	0	0		
88.9%	0	0	0		
90.1%	0	0	0		
91.4%	0	0	0		
92.6%	0	0	0		
93.8%	0	0	0		
95.1%	0	0	0		
96.3%	0	0	0		
97.5%	0	0	0		
98.8%	0	0	0		
100.0%	0.0	0.0	0.0		

May					
Percent Exceedance Probability (%)	No Action Alternative Monthly Diversion (CFS)	Alternative B Monthly Diversion (CFS)	Absolute Difference (CFS)	Relative Difference (%)	
0.0%	2239	1859	-380	-17.0%	
1.2%	1860	1783	-77	-4.2%	
2.5%	1459	806	-653	-44.7%	
3.7%	0	0	0		
4.9%	0	0	0		
6.2%	0	0	0		
7.4%	0	0	0		
8.6%	0	0	0		
9.9%	0	0	0		
11.1%	0	0	0		
12.3%	0	0	0		
13.6%	0	0	0		
14.8%	0	0	0		
16.0%	0	0	0		
17.3%	0	0	0		
18.5%	0	0	0		