

## **Appendix 12E**

# **Fisheries Impact Assessment Summary Tables**

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# APPENDIX 12E

## Fisheries Impact Assessment Summary Tables

### 12E.1 Results

This appendix includes the results of the Fisheries Impact Assessment Summary Tables for the proposed Project action alternatives (alternatives) evaluated in the North-of-the-Delta Offstream Storage Draft Environmental Impact Report/Environmental Impact Statement (NODOS DEIR/EIS). The fisheries impact assessment and methodology is described in Chapter 12 – Aquatic Biological Resources and in Appendix 12B and 12C.

#### 12E.1.1 Introduction

The Fisheries Impact Assessment Summary Tables were the primary tools utilized to conduct the fisheries impact assessment for the major riverine environments evaluated.

The riverine environments evaluated include:

- Upper Trinity River
- Clear Creek
- Sacramento River
- Lower Feather River
- Lower American River
- Sacramento-San Joaquin Delta

The species evaluated include:

- Delta Smelt (*Hypomesus transpacificus*)
- Longfin Smelt (*Spirinchus thaleichthys*)
- Coho Salmon (*Oncorhynchus kisutch*)
- Winter-run Chinook Salmon (*Oncorhynchus tshawytscha*)
- Spring-run Chinook Salmon (*Oncorhynchus tshawytscha*)
- Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*)
- Late Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*)
- Steelhead (*Oncorhynchus mykiss*)
- Green Sturgeon (*Acipenser medirostris*)
- White Sturgeon (*Acipenser transmontanus*)
- Pacific Lamprey (*Lampetra tridentata*)
- River Lamprey (*Lampetra ayresi*)
- Hardhead (*Mylopharodon conocephalus*)
- California Roach (*Hesperoleucus symmetricus*)
- Splittail (*Pogonichthys macrolepidotus*)
- Striped Bass (*Morone saxatilis*)
- American Shad (*Alosa sapidissima*)
- Largemouth Bass (*Micropterus salmoides*)
- Other Warmwater Game Fishes

For each riverine environment and species, these tables identify the parameters evaluated according to:

- Life stages evaluated
- Life stage periodicity (time period) evaluated
- Types of evaluation conducted
- Locations evaluated
- Evaluation criteria

The parameters evaluated include:

- Flow (cfs)
- Water temperature (°F)
- Weighted usable area (WUA) (percent of maximum)
- Indicators of:
  - Combined Old and Middle River (OMR) flow (cfs)
  - X2 Location (distance of 2 ppt salinity isopleth from the Golden Gate Bridge) (km)

### 12E.1.2 Methodology

The evaluation methods used for each parameter listed above are described below. Please refer to the comparisons presented in the next section, to follow along, as the methods are described.

In general, the tables present the changes in performance metrics by month. A performance metric is generally the probability of exceedance of a parameter against a given target or a threshold identified to be critical for a species. The difference between the performance metrics for an alternative and the baseline<sup>1</sup> is the net change and represents the performance of an alternative in meeting a threshold relative to the baseline. The tables show the net change in the performance metric for a given parameter under an alternative relative to a baseline.

For example, if the net change in probability of exceedance (or occurrence) is higher (a positive number), the criterion was exceeded (or met) more often under the alternative than under the baseline condition. If the net change in probability of exceedance (or occurrence) is lower (a negative number), the criterion was exceeded (or met) less often under the alternative than under the baseline condition.

In the summary tables, shading helps elucidate more suitable or less suitable conditions. Specifically, blue shading indicates more suitable (better) habitat conditions under an alternative, relative to a baseline. Red shading indicates less suitable (worse) habitat conditions. For flow, water temperature ranges, WUA, and probability of X2 location less than a given distance, the net changes in performance metric are shaded in blue when these values are positive, and are shaded in red when they are negative. For the exceedance of water temperature index values, occurrence below given OMR targets, and net upstream movements in X2, net changes are shaded in red when positive, and are shaded in blue when negative.

Below are examples of how each parameter was evaluated.

Flows: For the flow parameter (including Yolo Bypass outflow and Delta outflow), the summary tables show net changes in percent of time when the flow differences are 10 percent or more. Specifically, a net change for the flow parameter only indicates a net difference when flows differ under the alternative, relative to the baseline, by 10 percent or more. Negative flow values in a summary table indicate the

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<sup>1</sup> For the purposes of comparison, the baseline includes both Existing Conditions and the No Project/No Action Alternative.

percentage of time flows are reduced by 10 percent or more under the alternative, relative to the baseline, and are shaded red.

**Water temperature indices:** For a given month, if a water temperature index value is exceeded in 10 percent of the years (out of the 82 years modeled) under the alternative and 15 percent of the years under the baseline condition, the net difference in exceedance is negative five percent of the years, which indicates that water temperatures exceed the index value five percent less under the alternative. Water temperature exceedance for coldwater species indicates that water temperatures exceeded a value that represents the temperature above which physiological or population effects occur (see [Appendix 12D](#) for water temperature index value justification). If water temperatures exceed an index value less often under an alternative, then conditions are more suitable more often with respect to the index value. Therefore, in the summary tables, negative exceedances of water temperature index values indicate better conditions under the alternative, relative to the baseline, and are shaded blue.

**Water temperature ranges:** When water temperature ranges are evaluated, the net change represents the percentage of time when water temperatures are within the range more often/less often. Positive values indicate that water temperatures are within the specified range more often under an alternative, relative to a baseline, and are shaded blue.

**WUA values:** For the WUA parameter, the net change represents the difference in the percent of time that the percentage of maximum WUA changes by one percent or more under an alternative, relative to a baseline. Positive values indicate that the percentage of maximum WUA increased more often under an alternative and are shaded blue.

**X2 location values:** Evaluation of X2 location includes comparing the probability of X2 being less than 75 km (i.e., for longfin smelt and American shad), under an alternative, relative to a baseline condition. The probability of X2 being less than 75 km represents the difference in the percent of time that X2 is located downstream of 75 km under an alternative, relative to a baseline. Positive values in the summary table indicate that X2 is located downstream of 75 km more often under an alternative, and are shaded blue.

**Upstream movements of X2 locations:** For this parameter change in net upstream movement in X2 (i.e., for delta smelt, striped bass and warmwater game fishes) is computed, under an alternative, relative to a baseline condition. It represents the difference in the percent of time that X2 moves upstream by 0.5 km or more (i.e., for delta smelt) or by 1.0 km or more (i.e., for striped bass and warmwater game fishes). Increases in probability of occurrence indicate that X2 moves upstream by at least 0.5 km or 1.0 km more often under an alternative, and are shaded red. Upstream movements in X2 are generally indicative of less suitable habitat conditions for estuarine fishes and for warmwater game fishes (see [Appendix 12B](#) for further discussion).

**OMR flows:** For this parameter, net change in OMR flows of less than negative 5,000 cfs (i.e., for delta smelt, longfin smelt, and San Joaquin fall/late fall-run Chinook salmon), negative 1,500 cfs (i.e., for delta smelt and longfin smelt), and positive 2,500 cfs (i.e., for steelhead) is computed, under an alternative, relative to a baseline. It represents the difference in the percent of time that OMR flows are less than the specified criteria under an alternative, relative to a baseline. Positive values indicate that OMR flows are reduced or more negative more often under an alternative, and are shaded red. Reduced or more negative OMR flows are generally indicative of increased probability of fish entrainment and mortality in the South Delta (see [Appendix 12B](#) for further discussion).

### **12E.1.3 Comparisons**

For each river basin, a Fisheries Impact Assessment Summary Tables report is provided for each of the following seven comparisons:

- No Project/No Action Alternative compared to Existing Conditions
- Alternative A compared to Existing Conditions
- Alternative A compared to No Project/No Action Alternative
- Alternative B compared to Existing Conditions
- Alternative B compared to No Project/No Action Alternative
- Alternative C compared to Existing Conditions
- Alternative C compared to No Project/No Action Alternative

# **No Action Alternative Compared to Existing Condition Trinity River**

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**Steelhead (Winter and Summer-run) in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding (Winter-run)	August through April	Monthly mean Flow (cfs)	Trinity River below Lewiston Dam		10	All Years	0.0	0.0	-1.2	-3.7	2.4	-6.1	-4.9					0.0	0.0			
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
			Trinity River below Lewiston Dam	52	All Years	-0.8	0.0	0.0	0.0	0.0	-0.1	2.5								-2.5	-3.1	
				56	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0								-1.6	-2.2	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0								0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0								0.0	0.0	
		Trinity River at Douglas City	52	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0							0.0	0.2		
			56	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1							-0.1	-2.6		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0		
			52	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.3							0.0	0.0		
			56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3							0.0	0.1		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0		
Adult Immigration and Holding (Summer-run)	June through August	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years											-1.2	0.0	0.0			
					10	Lower 25%													0.0	0.0	0.0	
			Trinity River below Lewiston Dam	52	All Years															-2.6	1.3	-2.5
				56	All Years															-1.3	-1.3	-1.6
				70	All Years															0.0	0.0	0.0
				70	All Years															0.0	0.0	0.0
		Trinity River at Douglas City	52	All Years															1.2	0.0	0.0	
			56	All Years															-0.2	0.0	-0.1	
			70	All Years															0.0	0.0	0.0	
			52	All Years															0.9	0.0	0.0	
			56	All Years															0.0	0.0	0.0	
			70	All Years															0.0	0.0	0.0	
Adult Spawning and egg incubation	December through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years			-1.2	-3.7	2.4	-6.1	-4.9	0.0			-1.2					
					10	Lower 25%			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			Trinity River below Lewiston Dam	52	All Years						0.0	0.0	0.0	-0.1	2.5	0.0			-2.6			
				54	All Years						0.0	0.0	0.0	0.0	1.3	0.0			-2.2			
				57	All Years						0.0	0.0	0.0	0.0	0.0	0.0			0.2			
				60	All Years						0.0	0.0	0.0	0.0	0.0	0.0			0.0			
		Trinity River at Douglas City	52	All Years						0.0	0.0	0.0	0.4	0.0	0.2	1.2						
			54	All Years						0.0	0.0	0.0	0.0	1.3	-0.1	0.0						
			57	All Years						0.0	0.0	0.0	0.0	0.0	0.0	1.3						
			60	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0			-1.3			
			52	All Years						0.0	0.0	0.0	0.0	1.3	0.0	0.9						
			57	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0			1.3			
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years	0.0	0.0	-1.2	-3.7	2.4	-6.1	-4.9	0.0			-1.2	0.0	0.0			
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Trinity River below Lewiston Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Trinity River at Douglas City	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.7	0.1	
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.1	
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.9	0.0	
Smolt Emigration	February through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years					2.4	-6.1	-4.9	0.0			-1.2	0.0				
					10	Lower 25%			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Trinity River below Lewiston Dam	52	All Years						0.0	0.0	0.0	-0.1	2.5	0.0			-2.6	1.3		
				55	All Years						0.0	0.0	0.0	0.0	0.0	0.0			-1.4	-1.3		
				59	All Years						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0		
				52	All Years						0.0	0.4	0.0	0.2	1.2	0.0			0.0	0.0		
		Trinity River at Douglas City	55	All Years						0.0	0.0	1.3	0.0	0.0	0.0			0.0	0.0			
			59	All Years						0.0	0.0	0.0	0.0	0.0	0.0			-2.5	-1.3			
			52	All Years						0.0	0.0	1.3	0.0	0.9	0.0			0.0	0.0			
			55	All Years						0.0	0.0	2.5	0.0	0.0	0.0			0.0	0.0			
			59	All Years						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
			59	All Years						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0			



**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years		0.0	-1.2	-3.7	2.4	-6.1	-4.9	0.0				
				10		Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years					2.4	-6.1	-4.9	0.0				
				10		Lower 25%					0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	0.0	-1.2	-3.7	2.4	-6.1	-4.9	0.0	-1.2	0.0	0.0	0.0
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.3	0.0

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years						-3.7	2.4	-6.1	-4.9	0.0	-1.2			
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years						-3.7	2.4	-6.1	-4.9	0.0	-1.2	0.0	0.0	
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at Douglas City		50-64 <sup>1</sup>	All Years							0.0	0.0	1.3	2.5	1.3	-1.3	-3.8	-1.0
					50-64	All Years							0.0	0.0	0.0	2.1	-1.3	-0.6	1.3	1.1
	Trinity River at North Fork		50-64	All Years							0.0	0.0	-0.2	0.8	-1.3	0.6	0.0	0.6		
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	0.0	-1.2	-3.7	2.4	-6.1	-4.9	0.0	-1.2	0.0	0.0	0.0	0.0	
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at Douglas City		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
					72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Trinity River at North Fork		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to Existing Condition Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through January	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10		All Years	0.0	0.0	-2.4	-1.2							0.0			
					10		Lower 25%	0.0	0.0	0.0	0.0								0.0		
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	40		All Years	0.0	1.5	5.0	1.3										0.0	
				52		All Years	-3.3	0.0	0.0	0.0										-3.1	
				57		All Years	-2.5	0.0	0.0	0.0											-2.1
				60		All Years	-0.9	0.0	0.0	0.0											-2.9
				70		All Years	0.0	0.0	0.0	0.0											0.0
				77		All Years	0.0	0.0	0.0	0.0											0.0
			Trinity River at Douglas City	40		All Years	0.0	0.1	-2.5	2.5											0.0
				52		All Years	0.8	0.0	0.0	0.0											0.1
				57		All Years	-2.1	0.0	0.0	0.0											-4.0
				60		All Years	0.0	0.0	0.0	0.0											-2.9
				70		All Years	0.0	0.0	0.0	0.0											0.0
				77		All Years	0.0	0.0	0.0	0.0											0.0
			Trinity River at North Fork	40		All Years	0.0	0.0	-0.6	0.0											0.0
				52		All Years	-0.6	0.0	0.0	0.0											0.0
				57		All Years	-0.1	0.0	0.0	0.0											0.1
				60		All Years	0.0	0.0	0.0	0.0											-6.3
70		All Years		0.0	0.0	0.0	0.0											0.0			
77		All Years		0.0	0.0	0.0	0.0											0.0			
Adult Spawning and Embryo Incubation	October through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10		All Years	0.0	0.0	-2.4	-1.2	-1.2	-7.3	-2.4	0.0						
					10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	40		All Years	0.0	1.5	5.0	1.3	0.2	0.0	0.0	0.0							
				43		All Years	0.0	-3.8	1.3	0.0	0.0	0.0	0.0	0.0							
				48		All Years	-2.5	-0.2	0.0	0.0	0.0	-1.3	0.0	-0.6							
				50		All Years	-1.0	-0.6	0.0	0.0	0.0	-1.3	-1.3	1.3							
				56		All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Trinity River at Douglas City	40		All Years	0.0	0.1	-2.5	2.5	0.0	0.0	0.0	0.0							
				43		All Years	0.0	-2.5	1.6	0.0	0.0	0.0	0.0	0.0							
				48		All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3						
				50		All Years	-3.8	1.1	0.0	0.0	0.0	0.0	0.0	-2.5	-3.8						
				56		All Years	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0						
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			Trinity River at North Fork	40		All Years	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0						
				43		All Years	0.0	-2.5	-2.7	0.0	0.0	0.0	0.0	0.0	0.0						
				48		All Years	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				50		All Years	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.8	-2.5						
56		All Years		-2.8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.2									
68		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10		All Years	0.0	0.0	-2.4	-1.2	-1.2	-7.3	-2.4	0.0	-1.2	0.0	0.0			
					10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	41		All Years	0.0	0.8	1.3	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				48		All Years	-2.5	-0.2	0.0	0.0	0.0	-1.3	0.0	-0.6	2.5	0.0	-2.0	1.3			
				54		All Years	-0.6	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	-0.9	0.0	-3.2	-0.6		
				57		All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-3.9	-2.1		
				60		All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.9	-2.0	-2.9		
				64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.4		
			Trinity River at Douglas City	41		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				48		All Years	0.0	-0.4	-0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				54		All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	0.8	0.0	0.0	0.0		
				57		All Years	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.1	2.1	0.0	0.0	1.3		
				60		All Years	-2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.3	0.0	0.0	-4.0		
				64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-2.5	-2.9		
			Trinity River at North Fork	41		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				48		All Years	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				54		All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	0.0		
				57		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.1		
60		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-6.3					
64		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.3	-2.5	-1.2					

**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years							-1.2	-7.3	-2.4	0.0	-1.2				
				10	Lower 25%							0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years					0.0	-1.3	-1.3	1.3	-2.5						
				59	All Years					0.0	0.0	0.0	0.0	-0.1						
				62	All Years					0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years					0.0	0.0	0.0	0.0	0.0	0.0					
			Trinity River at Douglas City	50	All Years					0.0	0.0	-2.5	-3.8	-0.6						
				59	All Years					0.0	0.0	0.0	0.0	-1.3						
				62	All Years					0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years					0.0	0.0	0.0	0.0	0.0	0.0					
			Trinity River at North Fork	50	All Years					0.0	0.1	0.0	0.0	0.0	0.0					
				59	All Years					-0.2	0.0	0.0	0.0	0.0	0.0					
				62	All Years					0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years					0.0	0.0	0.0	0.0	0.0	0.0					







**Green Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	February through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	0.0					-1.2	-7.3	-2.4	0.0	-1.2	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-1.3	-1.3	0.3			-2.3
			Trinity River at North Fork	66		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-0.1	-1.3	0.0			-0.1
Adult Spawning	March through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years							-7.3	-2.4	0.0	-1.2	0.0				
				10		Lower 25%							0.0	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River at North Fork	68		All Years						0.0	0.0	0.0	0.0	-1.5					
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	0.0	-2.4	-1.2	-1.2	-7.3	-2.4	0.0	-1.2	0.0	0.0	0.0	0.0		
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.3	0.0		-0.1	



**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-1.2	-1.2	-7.3	-2.4	0.0	-1.2			
					10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-1.2	-1.2	-7.3	-2.4	0.0	-1.2	0.0	0.0	
					10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston	50-64 <sup>1</sup>		All Years					0.0	0.0	-1.3	-1.3	1.3	-2.5	-3.8	-0.7	
			Trinity River at Douglas City	50-64		All Years					0.0	0.0	0.0	-2.5	-3.8	-0.5	2.9	3.3	
		Trinity River at North Fork	50-64		All Years				0.0	0.0	0.1	0.8	-2.5	0.6	1.3	2.5			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	0.0	-2.4	-1.2	-1.2	-7.3	-2.4	0.0	-1.2	0.0	0.0	0.0	
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Trinity River at Douglas City	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Trinity River at North Fork	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Alternative A Compared to  
No Action Alternative Condition  
Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative																
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep						
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years									-3.7	0.0	2.4	0.0	0.0						
				10	Lower 25%												0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years											0.0	0.0	0.0	0.0	0.0				
				59	All Years												0.0	0.0	0.0	0.0	0.0			
				62	All Years												0.0	0.0	0.0	0.0	0.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			
			Trinity River at Douglas City	50	All Years												0.0	0.0	-4.6	-2.5	0.0			
				59	All Years												0.0	0.0	0.0	0.0	0.0			
				62	All Years												0.0	0.0	0.0	0.0	0.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			
			Trinity River at North Fork	50	All Years												-0.2	0.1	0.0	0.0	0.0			
				59	All Years												-0.3	0.0	0.0	0.0	0.0			
				62	All Years												0.0	0.0	0.0	0.0	0.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			







**Green Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	1.2				-3.7	0.0	2.4	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-1.3	-1.3	0.1	-2.3
				66		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-0.1	-0.6	1.3	-0.1
Adult Spawning	March through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years							0.0	2.4	0.0	0.0			
				10		Lower 25%							0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Trinity River at North Fork	68		All Years							0.0	0.0	0.0	0.0	-0.8		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	1.2	-1.2	0.0	-3.7	0.0	2.4	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	1.3	-0.1

**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years		1.2	-1.2	0.0	-3.7	0.0	2.4	0.0				
				10	10	Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years					-3.7	0.0	2.4	0.0				
				10	10	Lower 25%					0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years	0.0	1.2	-1.2	0.0	-3.7	0.0	2.4	0.0	0.0	0.0	0.0	0.0
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	1.3	-0.1

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years				0.0	-3.7	0.0	2.4	0.0	0.0			
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years				0.0	-3.7	0.0	2.4	0.0	0.0	0.0	0.0	
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston Dam	50-64 <sup>1</sup>	All Years				0.0	0.0	-2.5	-3.7	0.0	-1.3	0.0	0.3		
			Trinity River at Douglas City	50-64	All Years				0.0	0.0	0.0	-4.6	-2.5	0.1	1.7	2.1		
	Trinity River at North Fork	50-64	All Years				0.0	0.0	0.3	0.0	-1.3	0.0	1.3	1.9				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	1.2	-1.2	0.0	-3.7	0.0	2.4	0.0	0.0	0.0	0.0	0.0
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Trinity River at Douglas City	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Trinity River at North Fork	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to Existing Condition Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years							-6.1	-6.1	-2.4	0.0	-1.2			
				10	Lower 25%							0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years							0.0	-1.3	0.0	1.3	-3.7			
				59	All Years							0.0	0.0	0.0	0.0	0.0			
				62	All Years							0.0	0.0	0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0	0.0	0.0			
			Trinity River at Douglas City	50	All Years							0.0	0.0	-1.3	-3.8	-0.3			
				59	All Years							0.0	0.0	0.0	0.0	-2.5			
				62	All Years							0.0	0.0	0.0	0.0	0.0	0.2		
				70	All Years							0.0	0.0	0.0	0.0	0.0			
			Trinity River at North Fork	50	All Years							0.0	0.6	0.0	0.0	0.0			
				59	All Years							0.1	0.0	0.0	0.0	0.0			
				62	All Years							0.0	0.0	0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0	0.0	0.0			





**Steelhead (Winter and Summer-run) in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding (Winter-run)	August through April	Monthly mean Flow (cfs)	Trinity River below Lewiston Dam		10	All Years	0.0	0.0	0.0	-4.9	-6.1	-6.1	-2.4				0.0	-1.2				
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-4.8			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	52		All Years	-2.5	0.8	0.0	0.0	0.0	0.5	0.8						-5.0	-3.1		
				56		All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.2						-3.4	-4.2		
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0		
			Trinity River at Douglas City	52		All Years	-3.3	0.0	0.0	0.0	0.0	1.3	-1.3						0.0	0.1		
				56		All Years	-3.5	0.0	0.0	0.0	0.0	0.0	1.1						-0.1	-1.6		
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.9		
			Trinity River at North Fork	52		All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	-0.2						0.0	0.0	
				56		All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.7							0.0	-0.1	
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.5	
			Adult Immigration and Holding (Summer-run)	June through August	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years											-1.2	0.0	0.0
	10	Lower 25%																0.0	0.0	0.0		
Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	52				All Years													-1.0	2.5	-5.0	
		56				All Years													0.1	-2.5	-3.4	
		70				All Years													0.0	0.0	0.0	
	Trinity River at Douglas City	52				All Years														2.3	0.0	0.0
		56				All Years														-0.6	0.0	-0.1
		70				All Years														0.0	0.0	0.0
	Trinity River at North Fork	52				All Years														0.9	0.0	0.0
		56				All Years														1.3	0.0	0.0
		70				All Years														0.0	0.0	0.0
	Adult Spawning and egg incubation	December through June			Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years			0.0	-4.9	-6.1	-6.1	-2.4	0.0			-1.2		
			10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Monthly mean water temperatures (°F)			Trinity River below Lewiston Dam	52		All Years			0.0	0.0	0.0	0.5	0.8	0.0	-1.0							
				54		All Years			0.0	0.0	0.0	1.3	1.3	0.0	-1.0							
				57		All Years			0.0	0.0	0.0	0.0	0.0	0.0	1.3							
			Trinity River at Douglas City	52		All Years			0.0	0.0	0.0	1.3	-1.3	1.3	2.3							
				54		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.8							
				57		All Years			0.0	0.0	0.0	0.0	0.0	0.0	-1.3							
			Trinity River at North Fork	52		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				54		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				57		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years	0.0	0.0	0.0	-4.9	-6.1	-6.1	-2.4	0.0			-1.2	0.0	-1.2
	10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8		
Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	65				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	
		68				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Trinity River at Douglas City	65				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.8	-0.2	
		68				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	
		72				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Trinity River at North Fork	65				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-3.8	0.2	
		68				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	1.1	0.9	
		72				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Smolt Emigration	February through July			Monthly mean flow (cfs)	Trinity River below Lewiston Dam		10	All Years				-6.1	-6.1	-2.4	0.0				-1.2	0.0	
			10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Monthly mean water temperatures (°F)			Trinity River below Lewiston Dam	52		All Years			0.0	0.0	0.0	0.5	0.8	0.0	-1.0	2.5						
				55		All Years			0.0	0.0	0.0	0.8	0.0	-0.3	-2.5							
				59		All Years			0.0	0.0	0.0	0.0	0.0	-1.3	-2.9							
			Trinity River at Douglas City	52		All Years			0.0	0.0	1.3	-1.3	1.3	2.3	0.0							
				55		All Years			0.0	0.0	1.1	0.0	2.3	0.0								
				59		All Years			0.0	0.0	0.0	0.0	-2.5	0.0								
			Trinity River at North Fork	52		All Years			0.0	0.0	-0.2	0.0	0.9	0.0								
				55		All Years			0.0	0.0	1.9	1.3	0.2	0.0								
				59		All Years			0.0	0.0	0.0	0.0	1.3	0.0								

**Green Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	0.0				-6.1	-6.1	-2.4	0.0	-1.2	0.0	0.0	-1.2
				10		Lower 25%	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-1.3	-1.3	0.3	-2.3
				66		All Years	0.0	0.0				0.0	0.0	0.0	0.0	-0.1	0.0	0.0	1.1
Adult Spawning	March through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years							-6.1	-2.4	0.0	-1.2	0.0		
				10		Lower 25%							0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	68		All Years							0.0	0.0	0.0	0.0	-2.4		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10		All Years	0.0	0.0	0.0	-4.9	-6.1	-6.1	-2.4	0.0	-1.2	0.0	0.0	-1.2	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	1.1

**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years		0.0	0.0	-4.9	-6.1	-6.1	-2.4	0.0				
				10	10	Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0					
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years					-6.1	-6.1	-2.4	0.0				
				10	10	Lower 25%					0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years	0.0	0.0	0.0	-4.9	-6.1	-6.1	-2.4	0.0	-1.2	0.0	0.0	-1.2
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	1.1

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-4.9	-6.1	-6.1	-2.4	0.0	-1.2		
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-4.9	-6.1	-6.1	-2.4	0.0	-1.2	0.0	0.0
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at Douglas City		50-64 <sup>1</sup>	All Years					0.0	0.0	-1.3	0.0	1.3	-3.7	-2.5	-0.6
					50-64	All Years				0.0	0.0	0.0	-1.3	-3.8	-0.2	3.1	1.1	
	Trinity River at North Fork		50-64	All Years				0.0	0.0	0.1	0.8	0.0	-0.6	0.0	3.1			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	0.0	0.0	-4.9	-6.1	-6.1	-2.4	0.0	-1.2	0.0	0.0	-1.2
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River at Douglas City		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Trinity River at North Fork		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Alternative B Compared to  
No Action Alternative Condition  
Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years								-7.3	0.0	2.4	0.0	0.0				
				10	Lower 25%							0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years							0.0	-2.5	-2.5	0.0	-2.5					
				59	All Years							0.0	0.0	0.0	0.0	0.0	-1.3				
				62	All Years							0.0	0.0	0.0	0.0	0.0	0.0				
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0				
			Trinity River at Douglas City	50	All Years							0.0	0.0	-3.3	-2.5	0.3					
				59	All Years							0.0	0.0	0.0	0.0	0.0					
				62	All Years							0.0	0.0	0.0	0.0	0.0	0.2				
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0				
		Trinity River at North Fork	50	All Years							-0.2	0.6	0.0	0.0	0.0						
			59	All Years							0.0	0.0	0.0	0.0	0.0						
			62	All Years							0.0	0.0	0.0	0.0	0.0						
			70	All Years							0.0	0.0	0.0	0.0	0.0						

**Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	April through September	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years								2.4	0.0	0.0	0.0	0.0	-1.2		
				10	Lower 25%								0.0	0.0	0.0	0.0	0.0	-4.8		
		Monthly mean water temperatures (deg. F)	Trinity River below Lewiston Dam	60	All Years									0.0	0.0	-1.0	-0.6	0.0	-1.4	
				64	All Years									0.0	0.0	0.0	0.0	0.0	-0.9	
				68	All Years									0.0	0.0	0.0	0.0	0.0	0.0	
			Trinity River at Douglas City	60	All Years										0.0	0.0	1.3	1.3	-1.3	-4.2
	64			All Years										0.0	0.0	-0.1	-1.8	0.0	-0.3	
	68			All Years										0.0	0.0	0.0	0.0	0.0	1.0	
	Trinity River at North Fork	60	All Years										0.0	0.0	0.2	0.0	0.0	-6.3		
		64	All Years										0.0	0.0	1.3	0.0	-2.5	-0.1		
		68	All Years										0.0	0.0	0.0	-1.7	0.2	0.9		
	Adult Spawning and egg incubation	August through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0										0.0	-1.2	
10					Lower 25%	0.0	0.0											0.0	-4.8	
Monthly mean water temperatures (deg. F)			Trinity River below Lewiston Dam	56	All Years	-2.8	0.0												-1.8	-2.0
				58	All Years	-2.2	0.0												-1.0	-4.8
				60	All Years	-0.5	0.0												0.0	-1.4
			Trinity River at Douglas City	62	All Years	0.0	0.0													0.4
		56		All Years	-3.4	0.0													0.0	0.9
		58		All Years	-0.5	0.0													0.0	-0.9
Trinity River at North Fork		60	All Years	0.0	0.0													-1.3	-4.2	
		62	All Years	0.0	0.0													-2.2	-1.1	
		56	All Years	-1.9	0.0													0.0	-0.2	
		58	All Years	-0.5	0.0													0.0	2.5	
	60	All Years	0.0	0.0													0.0	-6.3		
	62	All Years	0.0	0.0													0.0	-0.7		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0	0.0	-1.2		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.6	0.0	-1.4	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.4
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	-1.3	-4.2
	63			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-1.1	-0.1	-0.4	
	65			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.2	
	Trinity River at North Fork	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-6.3		
		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.3	-0.7	
		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.2	
	Smolt Emigration	February through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years					-7.3	0.0	2.4	0.0	0.0	0.0				
10					Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Monthly mean water temperatures (°F)			Trinity River below Lewiston Dam	60	All Years											-1.0	-0.6			
				63	All Years											0.0	0.0			
				65	All Years											0.0	0.0			
				68	All Years											0.0	0.0			
				70	All Years											0.0	0.0			
				75	All Years											0.0	0.0			
			Trinity River at Douglas City	60	All Years											0.0	0.0	1.3	1.3	
		63		All Years											0.0	0.0	-0.8	-1.1		
		65		All Years											0.0	0.0	-1.0			
Trinity River at North Fork		68	All Years											0.0	0.0	0.0	0.0			
		70	All Years											0.0	0.0	0.0	0.0			
		75	All Years											0.0	0.0	0.0	0.0			
		60	All Years											0.0	0.0	0.2	0.0			
		63	All Years											0.0	0.0	0.1	0.0			
		65	All Years											0.0	0.0	0.0	-1.3			



**Steelhead (Winter and Summer-run) in Upper Trinity River in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding (Winter-run)	August through April	Monthly mean Flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4					0.0	-1.2		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	-4.8	
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	52	All Years	-1.7	0.8	0.0	0.0	0.0	0.5	-1.7							-2.5	0.0
				56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.2							-1.8	-2.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0
			Trinity River at Douglas City	52	All Years	-2.3	0.0	0.0	0.0	0.0	0.8	-1.3							0.0	-0.1
				56	All Years	-3.4	0.0	0.0	0.0	0.0	0.0	1.0							0.0	0.9
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.9
		Trinity River at North Fork	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5						0.0	0.0	
			56	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	-0.5						0.0	-0.2	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.5	
		Adult Immigration and Holding (Summer-run)	June through August	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years											0.0	0.0	0.0
10	Lower 25%																0.0	0.0	0.0	
Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam			52	All Years													1.6	1.3	-2.5
				56	All Years													1.4	-1.3	-1.8
				70	All Years													0.0	0.0	0.0
	Trinity River at Douglas City			52	All Years													1.1	0.0	0.0
				56	All Years													-0.4	0.0	0.0
				70	All Years													0.0	0.0	0.0
Trinity River at North Fork	52			All Years													0.0	0.0	0.0	
	56			All Years													1.3	0.0	0.0	
	70			All Years													0.0	0.0	0.0	
Adult Spawning and egg incubation	December through June			Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years			-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0				
		10	Lower 25%					0.0	0.0	0.0	0.0	0.5	-1.7	0.1	1.6					
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	54	All Years	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.2		
				57	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1		
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0		
			Trinity River at Douglas City	52	All Years	0.0	0.0	0.0	0.0	0.8	-1.3	1.1	1.1	1.1						
				54	All Years	0.0	0.0	0.0	0.0	0.0	-1.3	0.1	0.8							
				57	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5						
		Trinity River at North Fork	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3							
			52	All Years	0.0	0.0	0.0	0.0	0.0	-1.5	0.0	0.0	0.0							
			54	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	0.3							
		Trinity River at North Fork	57	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3						
60	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2								
60	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0	0.0	-1.2		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trinity River at Douglas City	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.2
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
		Trinity River at North Fork	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.2	
		Trinity River at North Fork	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.2	0.9	
72	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	February through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years					-7.3	0.0	2.4	0.0	0.0	0.0					
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	52	All Years						0.5	-1.7	0.1	1.6	1.3					
				55	All Years						0.0	0.0	0.8	0.0	1.0	-1.3				
				59	All Years						0.0	0.0	0.0	0.0	-1.3	-2.9				
			Trinity River at Douglas City	52	All Years							0.8	-1.3	1.1	1.1	0.0	0.0			
				55	All Years							0.0	-0.1	0.0	2.3	0.0				
				59	All Years							0.0	0.0	0.0	0.0	0.0	1.3			
		Trinity River at North Fork	52	All Years							0.0	0.0	-1.5	0.0	0.0	0.0				
			55	All Years							0.0	0.0	-0.6	1.3	0.2	0.0				
			59	All Years							0.0	0.0	0.0	0.0	1.3	0.0				

**Green Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0					-7.3	0.0	2.4	0.0	0.0	0.0	0.0	-1.2
				10	Lower 25%	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61	All Years	0.0	0.0				0.0	0.0	0.0	0.0	0.0	-1.3	-1.3	0.1	-2.3
				66	All Years	0.0	0.0				0.0	0.0	0.0	0.0	0.0	-0.1	0.6	1.3	1.1
Adult Spawning	March through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years								0.0	2.4	0.0	0.0			
				10	Lower 25%								0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years								0.0	0.0	0.0	0.0	-1.7		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0	0.0	-1.2	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	1.3	1.1

**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years		0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0				
				10	10	Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years						-7.3	0.0	2.4	0.0			
				10	10	Lower 25%					0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years						0.0	0.0	0.0	0.0			
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0	-1.2
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	1.3	1.1

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years						-4.9	-7.3	0.0	2.4	0.0	0.0				
					10	Lower 25%								0.0	0.0	0.0	0.0	0.0			
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years						-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0		
					10	Lower 25%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston Dam	50-64 <sup>1</sup>		All Years							0.0	0.0	-2.5	-2.5	0.0	-2.5	1.3	0.4	
				Trinity River at Douglas City	50-64		All Years						0.0	0.0	0.0	-3.3	-2.5	0.4	1.8	0.0	
		Trinity River at North Fork	50-64		All Years						0.0	0.0	0.3	0.0	1.3	-1.3	0.0	2.5			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	0.0	-1.2	-4.9	-7.3	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Trinity River at Douglas City	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Trinity River at North Fork	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to Existing Condition Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through January	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	0.0	-3.7									0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0										0.0		
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	40	All Years	0.0	1.4	8.1	1.3											0.0	
				52	All Years	-5.0	0.8	0.0	0.0											-4.8	
				57	All Years	-4.1	0.0	0.0	0.0											-4.5	
				60	All Years	-1.1	0.0	0.0	0.0												-2.8
				70	All Years	0.0	0.0	0.0	0.0												0.0
				77	All Years	0.0	0.0	0.0	0.0												0.0
			Trinity River at Douglas City	40	All Years	0.0	0.0	-1.2	3.8												0.0
				52	All Years	-4.2	0.0	0.0	0.0												0.1
				57	All Years	-3.0	0.0	0.0	0.0												-2.5
				60	All Years	0.0	0.0	0.0	0.0												-4.3
				70	All Years	0.0	0.0	0.0	0.0												0.0
				77	All Years	0.0	0.0	0.0	0.0												0.0
		Trinity River at North Fork	40	All Years	0.0	0.0	-0.6	-0.6												0.0	
			52	All Years	-1.9	0.0	0.0	0.0												0.0	
			57	All Years	-0.1	0.0	0.0	0.0												-0.5	
			60	All Years	0.0	0.0	0.0	0.0												-6.3	
			70	All Years	0.0	0.0	0.0	0.0												0.0	
			77	All Years	0.0	0.0	0.0	0.0												0.0	
Adult Spawning and Embryo Incubation	October through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0								
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	40	All Years	0.0	1.4	8.1	1.3	1.3	0.0	0.0	0.0	0.0							
				43	All Years	0.0	-3.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0							
				48	All Years	-1.3	-2.4	0.0	0.0	0.0	-1.2	0.0	-0.6								
				50	All Years	-4.6	-0.8	0.0	0.0	0.0	-2.1	0.0	1.3								
				56	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0								
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
			Trinity River at Douglas City	40	All Years	0.0	0.0	-1.2	3.8												
				43	All Years	0.0	-3.8	0.3	0.0	0.0	0.0	0.0	0.0								
				48	All Years	0.2	0.0	0.0	0.0	0.0	0.0	1.3	-1.3								
				50	All Years	-2.5	1.1	0.0	0.0	0.0	0.0	-1.3	-2.5								
				56	All Years	-6.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0								
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
		Trinity River at North Fork	40	All Years	0.0	0.0	-0.6	-0.6													
			43	All Years	0.0	-2.5	-2.7	0.0	0.0	0.0	0.0	0.0									
			48	All Years	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0									
			50	All Years	-0.1	0.6	0.0	0.0	0.0	0.1	0.8	-1.3									
			56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.9	-0.2									
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0	-1.2	0.0	0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	41	All Years	0.0	0.8	1.9	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				48	All Years	-1.3	-2.4	0.0	0.0	0.0	-1.2	0.0	-0.6	2.7	1.3	-1.2	-2.5				
				54	All Years	-3.4	0.1	0.0	0.0	0.0	1.3	0.0	0.0	-0.9	0.0	-6.1	1.0				
				57	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.4	-3.9	-4.5				
				60	All Years	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.9	-2.1	-2.8				
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.0				
			Trinity River at Douglas City	41	All Years	0.0	-0.4	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				48	All Years	0.2	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	0.8	0.0	0.0	0.0	0.0			
				54	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	-1.3	-0.1	1.9	0.0	0.0	1.3				
				57	All Years	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	1.3	-0.4	-2.5				
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.3	-5.0	-4.3				
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-2.9	-3.4	-0.4				
		Trinity River at North Fork	41	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			48	All Years	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			54	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	0.0				
			57	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	-0.5				
			60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-6.3				
			64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	-2.5	-0.7					

**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years							-2.4	-6.1	-2.4	0.0	-1.2				
				10	Lower 25%							0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years							0.0	-2.1	0.0	1.3	-1.3				
				59	All Years							0.0	0.0	0.0	0.0	0.0				
				62	All Years							0.0	0.0	0.0	0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0			
			Trinity River at Douglas City	50	All Years							0.0	0.0	-1.3	-2.5	-0.6				
				59	All Years							0.0	0.0	0.0	0.0	-1.3				
				62	All Years							0.0	0.0	0.0	0.0	0.0	-1.0			
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0			
			Trinity River at North Fork	50	All Years								-0.1	0.6	0.0	0.0	0.0			
				59	All Years								-0.1	0.0	0.0	0.0	0.0			
				62	All Years								0.0	0.0	0.0	0.0	0.0			
				70	All Years								0.0	0.0	0.0	0.0	0.0			







**Green Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0					-2.4	-6.1	-2.4	0.0	-1.2	0.0	0.0	0.0
				10	Lower 25%	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61	All Years	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.6	-2.3
				66	All Years	0.0	0.0				0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
Adult Spawning	March through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years								-6.1	-2.4	0.0	-1.2	0.0		
				10	Lower 25%									0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years							0.0	0.0	0.0	0.0	-3.1			
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0	-1.2	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1

**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years		0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0				
				10	10	Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0					
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years					-2.4	-6.1	-2.4	0.0				
				10	10	Lower 25%				0.0	0.0	0.0	0.0					
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years	0.0	0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0	-1.2	0.0	0.0	0.0
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years													
					10	Lower 25%													
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years													
					10	Lower 25%													
		Monthly mean water temperatures (°F)	Trinity River Below Lewiston Dam	50-64 <sup>1</sup>	All Years														
			Trinity River at Douglas City	50-64	All Years														
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	0.0	0.0	-3.7	-2.4	-6.1	-2.4	0.0	-1.2	0.0	0.0	0.0	
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Trinity River at Douglas City	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trinity River at North Fork	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Alternative C Compared to  
No Action Alternative Condition  
Trinity River**

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**Coho Salmon in Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative																
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep						
Smolt Emigration	February through June	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years									-4.9	0.0	2.4	0.0	0.0						
				10	Lower 25%												0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	50	All Years											0.0	0.0	0.0	0.0	0.0				
				59	All Years												0.0	0.0	0.0	0.0	-1.1			
				62	All Years												0.0	0.0	0.0	0.0	0.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			
			Trinity River at Douglas City	50	All Years												0.0	0.0	-3.3	-1.3	0.0			
				59	All Years												0.0	0.0	0.0	0.0	1.3			
				62	All Years												0.0	0.0	0.0	0.0	-1.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			
			Trinity River at North Fork	50	All Years												-0.3	0.6	0.0	0.0	0.0			
				59	All Years												-0.2	0.0	0.0	0.0	0.0			
				62	All Years												0.0	0.0	0.0	0.0	0.0			
				70	All Years												0.0	0.0	0.0	0.0	0.0			

**Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding	April through September	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years								2.4	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%									0.0	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (deg. F)	Trinity River below Lewiston Dam	60	All Years									0.0	0.0	-1.0	-0.6	-2.0	-1.5			
				64	All Years									0.0	0.0	0.0	0.0	-1.1	-1.5			
				68	All Years									0.0	0.0	0.0	0.0	0.0	0.0			
			Trinity River at Douglas City	60	All Years										0.0	0.0	1.4	2.5	-3.8	-4.3		
	64			All Years										0.0	0.0	-0.1	-1.7	-2.2	-0.5			
	68			All Years										0.0	0.0	0.0	0.0	0.0	0.0			
	Trinity River at North Fork	60	All Years										0.0	0.0	0.2	0.0	0.0	-6.3				
		64	All Years										0.0	0.0	1.3	0.0	-1.9	-0.6				
		68	All Years										0.0	0.0	0.0	-2.5	-2.1	0.0				
	Adult Spawning and egg incubation	August through November	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	1.2											0.0	0.0		
10					Lower 25%	0.0	0.0													0.0	0.0	
Monthly mean water temperatures (deg. F)			Trinity River below Lewiston Dam	56	All Years															-3.1	-1.5	
				58	All Years															-3.1	-4.7	
				60	All Years															-2.0	-1.5	
			Trinity River at Douglas City	62	All Years																-1.5	-1.7
		56		All Years																-0.1	1.6	
		58		All Years																0.0	0.4	
Trinity River at North Fork		60	All Years																-3.8	-4.3		
		62	All Years																-3.4	-1.1		
		56	All Years																0.0	-0.2		
Trinity River at North Fork		58	All Years																0.0	3.8		
	60	All Years																0.0	-6.3			
	62	All Years																0.0	-0.7			
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years	0.0	1.2	-1.2	-1.2	-4.9	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	60	All Years															-1.0	-0.6	
				63	All Years															-1.4	-1.8	
				65	All Years															0.0	-1.1	
				68	All Years															0.0	0.0	
				70	All Years															0.0	0.0	
				75	All Years															0.0	0.0	
			Trinity River at Douglas City	60	All Years																1.4	2.5
				63	All Years																-0.8	-1.1
				65	All Years																-1.1	-1.9
				68	All Years																0.0	0.0
				70	All Years																0.0	0.0
				75	All Years																0.0	0.0
			Trinity River at North Fork	60	All Years																0.2	0.0
				63	All Years																-1.2	0.0
				65	All Years																-0.3	-1.3
				68	All Years																-2.5	-2.1
70	All Years																	0.0	0.0			
75	All Years																	0.0	0.0			
Smolt Emigration	February through July	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	All Years							-4.9	0.0	2.4	0.0	0.0						
				10	Lower 25%																	
		Monthly mean water temperatures (°F)	Trinity River below Lewiston Dam	60	All Years															-1.0	-0.6	
				63	All Years															0.0	0.0	
				65	All Years															0.0	0.0	
				68	All Years															0.0	0.0	
				70	All Years															0.0	0.0	
				75	All Years															0.0	0.0	
			Trinity River at Douglas City	60	All Years																1.4	2.5
				63	All Years																-0.8	-1.1
				65	All Years																0.0	0.0
				68	All Years																0.0	0.0
				70	All Years																0.0	0.0
				75	All Years																0.0	0.0
			Trinity River at North Fork	60	All Years																0.2	0.0
				63	All Years																-1.2	0.0
				65	All Years																-0.3	-1.3
				68	All Years																0.0	0.0
70	All Years																	0.0	0.0			
75	All Years																	0.0	0.0			







**White Sturgeon in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years		1.2	-1.2	-1.2	-4.9	0.0	2.4	0.0				
				10	10	Lower 25%		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning	February through May	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years						-4.9	0.0	2.4	0.0			
				10	10	Lower 25%					0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Trinity River at North Fork	61		All Years						0.0	0.0	0.0	0.0			
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Trinity River below Lewiston Dam	10	10	All Years	0.0	1.2	-1.2	-1.2	-4.9	0.0	2.4	0.0	0.0	0.0	0.0	0.0
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at North Fork	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	1.3	-0.1

**Pacific Lamprey in the Upper Trinity River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	January through June	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-1.2	-4.9	0.0	2.4	0.0	0.0		
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years					-1.2	-4.9	0.0	2.4	0.0	0.0	0.0	0.0
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at Douglas City	50-64 <sup>1</sup>		All Years				0.0	0.0	-3.3	-2.5	0.0	0.0	2.5	2.2	
				50-64		All Years				0.0	0.0	0.0	-3.3	-1.3	0.1	1.7	2.2	
	Trinity River at North Fork	50-64		All Years				0.0	0.0	0.3	0.0	0.0	-1.3	0.0	1.9			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Trinity River Below Lewiston Dam		10	All Years	0.0	1.2	-1.2	-1.2	-4.9	0.0	2.4	0.0	0.0	0.0	0.0	0.0
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Trinity River at Douglas City	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Trinity River at North Fork	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**No Action Alternative Compared to  
Existing Condition  
Clear Creek**

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**Spring-run Chinook Salmon in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition														
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	April through October	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4							3.7	6.1	2.4	0.0	0.0	1.2			
					10	Lower 25%	9.5							14.3	23.8	9.5	0.0	0.0	4.8			
			Clear Creek below Whiskeytown Dam	60	All Years	-0.1								0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				64	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				68	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				60	All Years	0.1								0.0	0.0	-1.0	0.9	0.0	-1.1			
		Clear Creek at Igo	64	All Years	0.0								0.0	0.0	0.0	0.5	0.2	0.1				
			68	All Years	0.0								0.0	0.0	0.0	0.1	0.0	0.0				
			60	All Years	-1.0								0.0	0.0	-0.4	-1.0	0.4	-0.4				
			64	All Years	0.0								0.0	0.0	-1.5	-3.1	-4.1	-0.9				
			68	All Years	0.0								0.0	0.0	0.0	-1.9	-0.2	0.0				
			60	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning and Embryo Incubation	August through March	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	6.1	7.3	4.9	4.9	7.3						0.0	1.2			
					10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8							0.0	4.8		
			Clear Creek below Whiskeytown Dam	56	All Years	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.6	0.6	
				58	All Years	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-0.1	-1.1	
				60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0	
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.3	
		Clear Creek at Igo	56	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-3.5	-0.7		
			58	All Years	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-5.6	-1.9		
			60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-1.1		
			62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-0.3	-0.6		
			56	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.4							0.0	-1.8		
			58	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-5.8		
Mouth of Clear Creek	60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.4	-0.4				
	62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-1.7	-0.7				
	Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	0.0	1.2		
						10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8			
				Clear Creek below Whiskeytown Dam	60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
65					All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
68					All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
70			All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
75			All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Clear Creek at Igo			60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.9	0.0	-1.1		
			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	-0.7			
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0			
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0					
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Mouth of Clear Creek	60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.0	0.4	-0.4				
	63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-4.3	-3.9	0.6				
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-4.5	-3.9	-0.8					
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-0.2	0.0					
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0					
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4							
					10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5							
			Clear Creek below Whiskeytown Dam	60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
		70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		Clear Creek at Igo	60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0					
			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
70	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Mouth of Clear Creek	60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4							
	63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6							
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3							
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							







**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	7.3	3.7	6.1	2.4				
					10	Lower 25%							19.0	19.0	23.8	14.3	23.8	9.5		
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0		
					10	Lower 25%							19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years						0.0	0.0	0.0	1.7	-0.7	-2.5	-3.2	-0.3	
				Clear Creek at Igo	50-64		All Years					0.0	0.0	-1.0	3.5	-0.5	0.1	-0.5	-0.2	
		Mouth of Clear Creek	50-64		All Years					0.0	0.0	0.8	0.9	0.0	1.5	3.1	4.1			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	0.0	1.2	
					10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
		Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.2	0.0	

**River Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	September through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4			1.2	
				10	10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5				4.8
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	7.3	3.7	6.1	2.4		0.0		
				10	10	Lower 25%					19.0	23.8	14.3	23.8	9.5		0.0		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years					0.0	0.0	1.7	-0.7	-2.5	-3.2			
				Clear Creek at Igo	50-64		All Years					0.0	-1.0	3.5	-0.5	0.1	-0.5		
	Mouth of Clear Creek	50-64		All Years					0.0	0.8	0.9	0.0	1.5	3.1					
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2	
				10	10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	0.0	4.8
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
	Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.2	0.0		

**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2	
					10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							3.7	6.1	2.4				
					10	Lower 25%								14.3	23.8	9.5			
		Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64		All Years								0.0	0.0	0.0			
				59-64		All Years								0.0	0.0	-1.3			
		Mouth of Clear Creek	59-64		All Years							0.0	0.0	0.9					

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2	
					10	Lower 25%	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Mouth of Clear Creek		86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years						7.3	3.7	6.1	2.4				
					10	Lower 25%						23.8	14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Mouth of Clear Creek		60	All Years						0.0	0.0	0.0	0.0				
					60	All Years						0.0	0.0	0.0	-1.0				
	60	All Years							0.0	0.0	0.0	-0.4							

## **Alternative A Compared to Existing Condition Clear Creek**

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**Fall-run Chinook Salmon in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	All Years	4.9	6.1	7.3										1.2			
				10	Lower 25%	19.0	23.8	28.6											4.8		
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	60	All Years	-0.1	0.0	0.0												-1.9	
				64	All Years	0.0	0.0	0.0												0.0	
				68	All Years	0.0	0.0	0.0												0.0	
			Clear Creek at Igo	60	All Years	-0.3	0.0	0.0													-2.6
				64	All Years	0.0	0.0	0.0													0.0
				68	All Years	0.0	0.0	0.0													0.0
		Mouth of Clear Creek	60	All Years	-3.2	0.0	0.0													-3.0	
			64	All Years	0.0	0.0	0.0													-2.1	
			68	All Years	0.0	0.0	0.0													0.0	
		Adult Spawning and Embryo Incubation	October through March	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	All Years	4.9	6.1	7.3	4.9	4.9	4.9								
10	Lower 25%					19.0	23.8	28.6	19.0	19.0	19.0										
Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam			56	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0									
				58	All Years	-0.4	0.0	0.0	0.0	0.0	0.0	0.0									
				60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0									
	Clear Creek at Igo			56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0									
				58	All Years	-1.8	0.0	0.0	0.0	0.0	0.0	0.0									
				60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0									
Mouth of Clear Creek	56			All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	-0.4									
	58			All Years	-1.8	0.0	0.0	0.0	0.0	0.0	0.0										
	60			All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0										
Mouth of Clear Creek	62			All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0										
	Juvenile Rearing and Emigration	December through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	All Years			7.3	4.9	4.9	4.9	3.7	6.1	2.4						
					10	All Years			28.6	19.0	19.0	19.0	14.3	23.8	9.5						
Monthly mean water temperatures (°F)			Clear Creek below Whiskeytown Dam	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Clear Creek at Igo			60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0						
			63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Mouth of Clear Creek			60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5					
			68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1					
	70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							





**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	4.9	3.7	6.1	2.4				
				10	10	Lower 25%				19.0	19.0	19.0	14.3	23.8	9.5					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2		
				10	10	Lower 25%				19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64		All Years						0.0	0.0	0.0	1.5	-0.1	-2.9	-2.0	1.6	
			Clear Creek at Igo	50-64		All Years						0.0	0.0	-1.0	2.6	-0.1	0.1	1.3	-0.1	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	50-64	50-64	All Years					0.0	0.0	0.6	-3.6	0.2	1.9	4.1	3.3		
				10	10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2	1.2		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	0.0	4.8	
			Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	0.0	

**River Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	September through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4			1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5			4.8	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years					4.9	4.9	3.7	6.1	2.4	13.4			
					10	Lower 25%					19.0	19.0	14.3	23.8	9.5	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64		All Years					0.0	0.0	1.5	-0.1	-2.9	-2.0			
			Clear Creek at Igo	50-64		All Years					0.0	-1.0	2.6	-0.1	0.1	1.3			
		Mouth of Clear Creek	50-64		All Years					0.0	0.6	-3.6	0.2	1.9	4.1				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
		Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	0.0	

**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2	1.2		
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Clear Creek at Igo	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	
		Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-0.2	-5.2	-1.5			
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							3.7	6.1	2.4					
					10	Lower 25%							14.3	23.8	9.5					
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	59-64		All Years								0.0	0.0	0.0				
			Clear Creek at Igo	59-64		All Years								0.0	0.0	-0.5				
		Mouth of Clear Creek	59-64		All Years							0.0	0.0	3.7						

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Clear Creek at Igo	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Mouth of Clear Creek	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years						4.9	3.7	6.1	2.4				
					10	Lower 25%						19.0	14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	60		All Years						0.0	0.0	0.0	0.0				
			Clear Creek at Igo	60		All Years						0.0	0.0	0.0	-1.0				
		Mouth of Clear Creek	60		All Years					0.0	0.0	0.0	0.0						

## **Alternative A Compared to No Action Alternative Condition Clear Creek**

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**Fall-run Chinook Salmon in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative														
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	1.2	0.0	0.0									0.0				
					10	Lower 25%	4.8	0.0	0.0											0.0		
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	60		All Years	0.0	0.0	0.0											-1.9		
				64		All Years	0.0	0.0	0.0											0.0		
				68		All Years	0.0	0.0	0.0											0.0		
				60		All Years	-0.4	0.0	0.0											-1.5		
			Clear Creek at Igo	64		All Years	0.0	0.0	0.0												-0.1	
				68		All Years	0.0	0.0	0.0												0.0	
				60		All Years	-2.2	0.0	0.0												-2.6	
				64		All Years	0.0	0.0	0.0												-1.2	
				Mouth of Clear Creek	60		All Years	0.0	0.0	0.0												0.0
					68		All Years	0.0	0.0	0.0												0.0
Adult Spawning and Embryo Incubation	October through March	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	1.2	0.0	0.0	0.0	0.0	-2.4										
					10	Lower 25%	4.8	0.0	0.0	0.0	0.0	0.0	-4.8									
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	56		All Years	-2.9	0.0	0.0	0.0	0.0	0.0	0.0									
				58		All Years	1.1	0.0	0.0	0.0	0.0	0.0	0.0									
				60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			Clear Creek at Igo	56		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0									
				58		All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0									
				60		All Years	-0.4	0.0	0.0	0.0	0.0	0.0	0.0									
				62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				Mouth of Clear Creek	56		All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0								
					58		All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0								
60		All Years	-2.2		0.0	0.0	0.0	0.0	0.0	0.0												
62		All Years	-1.1		0.0	0.0	0.0	0.0	0.0	0.0												
Juvenile Rearing and Emigration	December through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years			0.0	0.0	0.0	-2.4	0.0	0.0	0.0							
					10	All Years			0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0						
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Clear Creek at Igo	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4				
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0				
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8				
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
70		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
75		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							





**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0				
					10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2		
					10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years				0.0	0.0	0.0	-0.2	0.6	-0.4	1.2	1.9			
				Clear Creek at Igo	50-64		All Years				0.0	0.0	0.0	-0.9	0.4	0.0	1.7	0.1		
		Mouth of Clear Creek	50-64		All Years				0.0	0.0	-0.2	-4.6	0.1	0.4	1.0	-0.8				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	1.2	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2	0.0		
					10	Lower 25%	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
		Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		



**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	1.2	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2	0.0	
					10	Lower 25%	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
	Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	4.5	-1.4	-0.6			
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years								0.0	0.0	0.0				
					10	Lower 25%									0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	59-64		All Years									0.0	0.0	0.0			
				Clear Creek at Igo	59-64		All Years									0.0	0.0	0.8		
	Mouth of Clear Creek	59-64		All Years									0.0	0.0	2.7					

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	1.2	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2	0.0	
					10	Lower 25%	4.8	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Clear Creek at Igo	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							-2.4	0.0	0.0	0.0				
					10	Lower 25%								-4.8	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Clear Creek at Igo	60		All Years								0.0	0.0	0.0	0.0			
				60		All Years									0.0	0.0	0.0	0.0		
	Mouth of Clear Creek	60		All Years									0.0	0.0	0.0	0.4				

## **Alternative B Compared to Existing Condition Clear Creek**

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**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	4.9	3.7	6.1	2.4				
					10	Lower 25%							19.0	19.0	19.0	14.3	23.8	9.5		
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2		
					10	Lower 25%							19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years						0.0	0.0	0.0	0.3	3.5	-0.4	0.4	1.4	
				Clear Creek at Igo	50-64		All Years						0.0	0.0	-1.0	2.6	-0.1	0.1	-0.1	-0.2
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2	1.2		
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
	Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	0.0		

**River Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	September through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4			1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5			4.8	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years					4.9	4.9	3.7	6.1	2.4	4.9			
					10	Lower 25%					19.0	19.0	14.3	23.8	9.5	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>	All Years					0.0	0.0	0.3	3.5	-0.4	0.4				
			Clear Creek at Igo	50-64	All Years					0.0	-1.0	2.6	-0.1	0.1	-0.1				
	Mouth of Clear Creek	50-64	All Years					0.0	0.5	-0.4	0.1	1.5	4.1						
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Clear Creek at Igo	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
	Mouth of Clear Creek	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	0.0		

**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
		Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	1.0	-1.7	-0.8		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							3.7	6.1	2.4				
					10	Lower 25%							14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64		All Years								0.0	0.0	0.0			
				59-64		All Years									0.0	0.0	-1.8		
		Mouth of Clear Creek	59-64		All Years								0.0	0.0	3.3				

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years						4.9	3.7	6.1	2.4				
					10	Lower 25%						19.0	14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Clear Creek at Igo	60		All Years						0.0	0.0	0.0	0.0				
				60		All Years						0.0	0.0	0.0	-1.0				
	Mouth of Clear Creek	60		All Years						0.0	0.0	0.0	-0.5						

## **Alternative B Compared to No Action Alternative Condition Clear Creek**

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**Fall-run Chinook Salmon in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative														
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0									0.0				
					10	Lower 25%	9.5	0.0	0.0											0.0		
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	60		All Years	0.0	0.0	0.0											-0.5		
				64		All Years	0.0	0.0	0.0											0.1		
				68		All Years	0.0	0.0	0.0												0.0	
				60		All Years	-0.4	0.0	0.0												0.2	
			Clear Creek at Igo	64		All Years	0.0	0.0	0.0												0.2	
				68		All Years	0.0	0.0	0.0												0.0	
				60		All Years	-2.4	0.0	0.0												-5.6	
				64		All Years	0.0	0.0	0.0												-0.2	
				Mouth of Clear Creek	60		All Years	0.0	0.0	0.0												0.0
					68		All Years	0.0	0.0	0.0												0.0
Adult Spawning and Embryo Incubation	October through March	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4										
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8									
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	56		All Years	-3.3	0.0	0.0	0.0	0.0	0.0	0.0									
				58		All Years	1.2	0.0	0.0	0.0	0.0	0.0	0.0									
				60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			Clear Creek at Igo	56		All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0									
				58		All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0									
				60		All Years	-0.4	0.0	0.0	0.0	0.0	0.0	0.0									
				62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				Mouth of Clear Creek	56		All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0								
					58		All Years	-0.7	0.0	0.0	0.0	0.0	0.0	0.0								
				60		All Years	-2.4	0.0	0.0	0.0	0.0	0.0										
				62		All Years	-1.1	0.0	0.0	0.0	0.0	0.0										
Juvenile Rearing and Emigration	December through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years			0.0	0.0	0.0	-2.4	0.0	0.0	0.0							
					10	All Years			0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0						
		Monthly mean water temperatures (°F)	Clear Creek below Whiskeytown Dam	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Clear Creek at Igo	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	60		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1				
				63		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2				
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7				
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
70		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
75		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							





**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0				
					10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2		
					10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years				0.0	0.0	0.0	-1.3	4.2	2.1	3.6	1.7			
				Clear Creek at Igo	50-64		All Years				0.0	0.0	0.0	-0.9	0.4	0.0	0.4	0.0		
		Mouth of Clear Creek	50-64		All Years				0.0	0.0	-0.3	-1.3	0.1	0.0	1.0	-1.5				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2	0.0		
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
		Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		



**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2	0.0	
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Clear Creek at Igo	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1
		Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	5.7	2.2	0.0		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years								0.0	0.0	0.0				
					10	Lower 25%									0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64		All Years									0.0	0.0	0.0			
				59-64		All Years										0.0	0.0	-0.5		
		Mouth of Clear Creek	59-64		All Years									0.0	0.0	2.4				

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2	0.0	
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Mouth of Clear Creek		86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							-2.4	0.0	0.0	0.0				
					10	Lower 25%								-4.8	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Mouth of Clear Creek		60	All Years								0.0	0.0	0.0	0.0			
					60	All Years									0.0	0.0	0.0	0.0		
			60	All Years								0.0	0.0	0.0	-0.1					

## **Alternative C Compared to Existing Condition Clear Creek**

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**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					4.9	4.9	4.9	3.7	6.1	2.4			
				10	10	Lower 25%				19.0	19.0	19.0	14.3	23.8	9.5				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years				4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2		
				10	10	Lower 25%				19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years				0.0	0.0	0.0	0.2	0.0	-1.1	-3.1	2.8		
				Clear Creek at Igo	50-64		All Years				0.0	0.0	-1.0	1.8	-0.1	0.0	-0.2	-0.1	
		Monthly mean water temperatures (°F)	Mouth of Clear Creek	50-64		All Years				0.0	0.0	0.5	-4.5	0.2	2.9	3.2	3.3		
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2	1.2	
				10	10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
		Monthly mean water temperatures (°F)	Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	0.0

**River Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4			1.2
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5			4.8
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years					4.9	4.9	3.7	6.1	2.4	9.8		
					10	Lower 25%					19.0	19.0	14.3	23.8	9.5	0.0		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>	All Years					0.0	0.0	0.2	0.0	-1.1	-3.1			
			Clear Creek at Igo	50-64	All Years					0.0	-1.0	1.8	-0.1	0.0	-0.2			
	Mouth of Clear Creek	50-64	All Years					0.0	0.5	-4.5	0.2	2.9	3.2					
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2	1.2
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Clear Creek at Igo	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
	Mouth of Clear Creek	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	0.0	

**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.9	-4.3	-1.5		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							3.7	6.1	2.4				
					10	Lower 25%							14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	59-64		All Years								0.0	0.0	0.0			
				Clear Creek at Igo	59-64		All Years								0.0	0.0	-2.9		
		Mouth of Clear Creek	59-64		All Years							0.0	0.0	4.8					

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2	1.2	
					10	Lower 25%	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years						4.9	3.7	6.1	2.4				
					10	Lower 25%						19.0	14.3	23.8	9.5				
		Monthly mean water temperatures (°F)	Clear Creek at Igo	60		All Years						0.0	0.0	0.0	0.0				
				60		All Years						0.0	0.0	0.0	-1.0				
	Mouth of Clear Creek	60		All Years						0.0	0.0	0.0	1.2						

## **Alternative C Compared to No Action Alternative Condition Clear Creek**

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**Spring-run Chinook Salmon in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative															
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding	April through October	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4							0.0	0.0	0.0	9.8	-1.2	0.0				
					10	Lower 25%	9.5							0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	60	All Years	0.0								0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-1.9		
				64	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				68	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				60	All Years	-0.1								0.0	0.0	0.0	0.0	-2.1	-2.2	-0.7			
		Clear Creek at Igo	64	All Years	0.0								0.0	0.0	0.0	0.0	-0.3	-0.2	-0.1				
			68	All Years	0.0								0.0	0.0	0.0	0.0	-0.1	0.0	0.0				
			60	All Years	-2.2								0.0	0.0	1.5	0.0	0.3	0.3	-6.1				
			64	All Years	0.0								0.0	0.0	-1.4	0.0	0.7	0.7	-1.2				
			68	All Years	0.0								0.0	0.0	0.0	0.0	-1.2	-1.2	0.0				
			60	All Years	0.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Spawning and Embryo Incubation	August through March	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4						-1.2	0.0				
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8						0.0	0.0			
			Clear Creek below Whiskeytown Dam	56	All Years	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-2.4	-6.2		
				58	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-2.1	-0.6		
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-1.9		
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-0.7		
		Clear Creek at Igo	56	All Years	-2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-1.4	-2.6			
			58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.5	-5.1			
			60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-2.2	-0.7			
			62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-2.8	-1.1			
			56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-3.6			
			58	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-1.5			
Mouth of Clear Creek	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.3	-6.1					
	62	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0							2.0	-1.8					
	Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0				
						10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				Clear Creek below Whiskeytown Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-1.9
					63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
65					All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
68					All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Clear Creek at Igo			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-2.2	-0.7			
			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-0.3	-0.6			
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0		
Mouth of Clear Creek	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0					
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.3	-6.1					
	63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	2.2	0.0	0.0	-2.9					
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	3.7	-0.4	-0.6						
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-1.2	0.0					
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0								
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0							
			Clear Creek below Whiskeytown Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		Clear Creek at Igo	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Mouth of Clear Creek	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5									
	63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2									
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									







**Pacific Lamprey in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0			
				10	10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years					0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	
				10	10	Lower 25%				0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	50-64 <sup>1</sup>		All Years				0.0	0.0	0.0	-1.5	0.7	1.4	0.1	3.2		
				Clear Creek at Igo	50-64		All Years				0.0	0.0	0.0	-1.7	0.4	-0.1	0.3	0.2	
			Mouth of Clear Creek	50-64		All Years					0.0	0.0	-0.2	-5.4	0.1	1.4	0.0	-0.7	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek	10	10	All Years	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0	
				10	10	Lower 25%	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
			Mouth of Clear Creek	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0



**Hardhead in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0	
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Mouth of Clear Creek	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	3.8	-0.4	-0.6		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years								0.0	0.0	0.0				
					10	Lower 25%								0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	59-64		All Years									0.0	0.0	0.0			
				Clear Creek at Igo	59-64		All Years									0.0	0.0	-1.6		
		Mouth of Clear Creek	59-64		All Years								0.0	0.0	3.8					

**Sacramento-San Joaquin Roach in Clear Creek**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years	2.4	0.0	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0	
					10	Lower 25%	9.5	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				Clear Creek at Igo	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Mouth of Clear Creek	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adult Spawning	March through June	Monthly mean Flow (cfs)	Whiskeytown Releases to Clear Creek		10	All Years							-2.4	0.0	0.0	0.0				
					10	Lower 25%							-4.8	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Whiskeytown Dam	60		All Years							0.0	0.0	0.0	0.0				
				Clear Creek at Igo	60		All Years							0.0	0.0	0.0	0.0			
		Mouth of Clear Creek	60		All Years							0.0	0.0	0.0	1.5					

# **No Action Alternative Compared to Existing Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition																																																																																																																																																																																																																																																																																																																															
				Description	Value		%	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep																																																																																																																																																																																																																																																																																																																					
			<table border="1"> <tr> <td rowspan="18">Adult Immigration and Holding</td> <td rowspan="12">December through July</td> <td rowspan="6">Monthly mean flow (cfs)</td> <td rowspan="2">Below Keswick Dam</td> <td>10</td> <td>All Years</td> <td>-7.3</td> <td>1.2</td> <td>11.0</td> <td>1.2</td> <td>3.7</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>Lower 25%</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>9.5</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Below Red Bluff Diversion Dam</td> <td>10</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>2.4</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>Lower 25%</td> <td>0.0</td> <td>0.0</td> <td>4.8</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Verona</td> <td>10</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>-1.2</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>Lower 25%</td> <td>0.0</td> <td>0.0</td> <td>-4.8</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Freeport</td> <td>10</td> <td>All Years</td> <td>1.2</td> <td>1.2</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-2.4</td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>Lower 25%</td> <td>4.8</td> <td>4.8</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-9.5</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Rio Vista</td> <td>10</td> <td>All Years</td> <td>1.2</td> <td>2.4</td> <td>-1.2</td> <td>-1.2</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-3.7</td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>Lower 25%</td> <td>4.8</td> <td>9.5</td> <td>-4.8</td> <td>-4.8</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-9.5</td> <td></td> <td></td> </tr> <tr> <td rowspan="12">Monthly mean water temperatures (°F)</td> <td rowspan="6">Below Keswick Dam</td> <td>60</td> <td>All Years</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>64</td> <td>All Years</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>68</td> <td>All Years</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="3">Below RBDD</td> <td>60</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-0.2</td> <td>0.2</td> <td>1.4</td> <td></td> <td></td> </tr> <tr> <td>64</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>68</td> <td>All Years</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="3">Feather River Confluence</td> <td>60</td> <td>All Years</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>64</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-1.3</td> <td>-0.2</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>68</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td rowspan="3">Freeport</td> <td>60</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-0.2</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>64</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>1.3</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> </tr> <tr> <td>68</td> <td>All Years</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.1</td> <td>0.4</td> <td>0.0</td> <td></td> <td></td> </tr> </table>																	Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam	10	All Years	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0				10	Lower 25%	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0			Below Red Bluff Diversion Dam	10	All Years	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0				10	Lower 25%	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0			Verona	10	All Years	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0			10	Lower 25%	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0			Freeport	10	All Years	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4			10	Lower 25%	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5			Rio Vista	10	All Years	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0	-3.7			10	Lower 25%	4.8	9.5	-4.8	-4.8	0.0	0.0	0.0	0.0	0.0	-9.5			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			Below RBDD	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	1.4			64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			Feather River Confluence	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			64	All Years	0.0	0.0	0.0	0.0	0.0	-1.3	-0.2	0.0	0.0			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			Freeport	60	All Years	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0			64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam	10	All Years	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																									
				10	Lower 25%	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																									
			Below Red Bluff Diversion Dam	10	All Years	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
				10	Lower 25%	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
			Verona	10	All Years	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
				10	Lower 25%	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
		Freeport	10	All Years	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4																																																																																																																																																																																																																																																																																																																								
			10	Lower 25%	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5																																																																																																																																																																																																																																																																																																																								
		Rio Vista	10	All Years	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0	-3.7																																																																																																																																																																																																																																																																																																																								
			10	Lower 25%	4.8	9.5	-4.8	-4.8	0.0	0.0	0.0	0.0	0.0	-9.5																																																																																																																																																																																																																																																																																																																								
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
	Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.2	1.4																																																																																																																																																																																																																																																																																																																								
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
	Feather River Confluence		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
			64	All Years	0.0	0.0	0.0	0.0	0.0	-1.3	-0.2	0.0	0.0																																																																																																																																																																																																																																																																																																																									
68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																										
Freeport	60		All Years	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																										
	64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0																																																																																																																																																																																																																																																																																																																										
	68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0																																																																																																																																																																																																																																																																																																																										
Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam	10	All Years					3.7	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
				10	Lower 25%					9.5	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																								
			Bend Bridge	10	All Years						0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
				10	Lower 25%						0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																							
		Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge	1	All Years						20.7	4.9	-35.4	-52.4	-29.3																																																																																																																																																																																																																																																																																																																							
				Monthly mean water temperatures (°F)	Below Keswick Dam	56	All Years					0.0	0.0	0.0	0.9	-0.9																																																																																																																																																																																																																																																																																																																						
						58	All Years					0.0	0.0	0.0	-0.1	0.5																																																																																																																																																																																																																																																																																																																						
						60	All Years					0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																						
		62	All Years							0.0	0.0	0.0	0.0	-0.2																																																																																																																																																																																																																																																																																																																								
		Ball's Ferry	56	All Years					0.0	0.5	-0.1	1.5	-0.9																																																																																																																																																																																																																																																																																																																									
			58	All Years					0.0	0.0	0.1	1.9	-0.2																																																																																																																																																																																																																																																																																																																									
			60	All Years					0.0	0.0	0.0	0.0	0.3																																																																																																																																																																																																																																																																																																																									
	62		All Years					0.0	0.0	0.0	0.0	-0.1																																																																																																																																																																																																																																																																																																																										
	Jelly's Ferry	56	All Years					0.1	0.8	0.3	-4.4	1.8																																																																																																																																																																																																																																																																																																																										
		58	All Years					0.0	-0.5	0.1	0.1	1.0																																																																																																																																																																																																																																																																																																																										
		60	All Years					0.0	0.0	0.0	0.1	0.0																																																																																																																																																																																																																																																																																																																										
		62	All Years					0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																										
	Bend Bridge	56	All Years					0.1	-1.0	2.4	1.2	3.9																																																																																																																																																																																																																																																																																																																										
58		All Years					0.0	0.1	-1.1	0.5	-0.2																																																																																																																																																																																																																																																																																																																											
60		All Years					0.0	0.0	0.0	-1.8	0.0																																																																																																																																																																																																																																																																																																																											
62		All Years					0.0	0.0	0.0	0.2	0.0																																																																																																																																																																																																																																																																																																																											

Juvenile Rearing and Emigration	July through April	Monthly mean Flow (cfs)	Below of Keswick Dam	10	All Years	-7.3	1.2	11.0	1.2	3.7			0.0	0.0	1.2	
				10	Lower 25%	0.0	0.0	0.0	0.0	-9.5			0.0	0.0	-4.8	
			Below Red Bluff Diversion Dam	10	All Years	0.0	0.0	2.4	0.0	0.0			0.0	0.0	1.2	
				10	Lower 25%	0.0	0.0	4.8	0.0	0.0			0.0	0.0	0.0	
			Verona	10	All Years	0.0	0.0	-1.2	0.0	0.0			0.0	-1.2	1.2	
				10	Lower 25%	0.0	0.0	-4.8	0.0	0.0			0.0	-4.8	0.0	
		Freeport	10	All Years	1.2	1.2	0.0	0.0	0.0			-2.4	-4.9	1.2		
			10	Lower 25%	4.8	4.8	0.0	0.0	0.0			-9.5	-19.0	0.0		
		Rio Vista	10	All Years	1.2	2.4	-1.2	-1.2	0.0			-3.7	-8.5	1.2		
			10	Lower 25%	4.8	9.5	-4.8	-4.8	0.0			-9.5	-33.3	0.0		
		Monthly mean water temperatures (°F)	July through April	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-1.1
					63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.7	-1.2
					65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.4	-0.3
					68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
	70				All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0			1.4	2.3	-1.4	
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.4	0.0	0.6	
				65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.3	-0.3	
				68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Feather River Confluence			60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-0.5	
			65	All Years	0.0	0.0	0.0	0.0	0.2			0.0	0.0	-0.9		
			68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.8		
			70	All Years	0.0	0.0	0.0	0.0	0.0			-1.0	0.0	2.5		
	75		All Years	0.0	0.0	0.0	0.0	0.0			-0.4	0.2	0.0			
Freeport	60		All Years	0.0	0.0	0.0	0.0	-0.2			0.0	0.0	0.0			
	63		All Years	0.0	0.0	0.0	0.0	-1.3			0.0	0.0	0.4			
	65		All Years	0.0	0.0	0.0	0.0	0.4			0.0	0.0	0.5			
	68		All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	2.5			
	70		All Years	0.0	0.0	0.0	0.0	0.0			0.6	3.1	1.9			
75	All Years		0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0				









**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2				0.0	0.0	1.2		
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8			
			Below Red Bluff Diversion Dam	10	All Years	-1.2	-1.2	0.0	0.0	0.0	2.4	0.0				0.0	0.0	1.2	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	4.8	0.0				0.0	0.0	0.0	
			Verona	10	All Years	0.0	0.0	0.0	0.0	0.0	-1.2	0.0				0.0	-1.2	1.2	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	-4.8	0.0				0.0	-4.8	0.0	
		Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0				-2.4	-4.9	1.2		
			10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0					-9.5	-19.0	0.0		
		Rio Vista	10	All Years	-1.2	-1.2	1.2	2.4	-1.2	-1.2					-9.5	-33.3	0.0		
			10	Lower 25%	9.5	-4.8	4.8	9.5	-4.8	-4.8									
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	0.3	0.0	0.7	0.0	0.0	0.0					-1.8	-0.6	0.1	
				56	All Years	2.8	-0.3	0.0	0.0	0.0	0.0	0.0				0.9	-0.9	0.1	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	
			Below Red Bluff Diversion Dam	52	All Years	-0.2	0.8	0.0	0.0	0.0	0.0	0.9				0.0	0.0	0.0	
	56			All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0				0.2	-0.4	2.6		
	Feather River Confluence		52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0		
			56	All Years	0.0	0.3	0.0	0.0	0.0	0.2	0.0				0.0	0.0	0.0		
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.0	0.0	2.5			
	Freeport	52	All Years	0.0	-1.3	0.0	0.0	0.0	1.3					0.0	0.0	0.0			
		56	All Years	0.0	0.5	0.0	0.0	0.0	0.0	1.9				0.0	0.0	0.0			
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.6	3.1	1.9			
Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	52	All Years			-7.3	1.2	11.0	1.2	3.7	0.0						
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	9.5	0.0							
	Monthly mean water temperatures (°F)	Below Keswick Dam	54	All Years			0.7	0.0	0.0	0.0	0.0	0.0	-0.1						
			57	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2		
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8		
			Bend Bridge	10	All Years	-1.2	-1.2	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.4	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Below Red Bluff Diversion Dam	10	All Years	-1.2	-1.2	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2		
			10	Lower 25%	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.3	
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Ball's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-2.4
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Jelly's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.6	
	68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Bend Bridge	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-1.3		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-1.2	-1.2	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0				
			Verona	10	All Years	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0			
		Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Rio Vista	10	All Years	-1.2	-1.2	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0				
			10	Lower 25%	9.5	-4.8	4.8	9.5	-4.8	-4.8	0.0	0.0	0.0	0.0	0.0				
	Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	52	All Years	-0.2	0.8	0.0	0.0	0.0	0.0	0.9	0.3	0.0	0.0	0.0				
			55	All Years	3.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	2.0	-1.0					
			59	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0					
		Feather River Confluence	52	All Years	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0					
			55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	0.0					
			59	All Years	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0					
Freeport	52	All Years	0.0	-1.3	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0							
	55	All Years	0.0	1.9	0.0	0.0	0.0	0.0	1.3	0.2	0.0	0.0							
59	All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0								

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	-1.2	-1.2	-7.3		11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2	
					10	Lower 25%	-4.8	0.0	0.0		0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8	
			Below Delevan Intake		10	All Years	0.0	-2.4	0.0		-1.2	1.2	0.0	1.2	0.0	0.0	-1.2	0.0	0.0
					10	Lower 25%	0.0	-4.8	0.0		-4.8	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0
				10	All Years	-1.2	-1.2	1.2		-1.2	-1.2	0.0	0.0	0.0	0.0	-3.7	-8.5	1.2	
				10	Lower 25%	9.5	-4.8	4.8		-4.8	-4.8	0.0	0.0	0.0	0.0	-9.5	-33.3	0.0	
		Monthly mean water temperatures (°F)	Below Keswick Dam	61		All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7
				66		All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below Delevan Intake	61		All Years	-0.3	0.0	0.0		0.0	0.0	0.4	1.4	0.1	0.0	0.0	-4.3	
				66		All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-0.7	-1.1	0.4	0.5	
Freeport	61			All Years	1.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	66			All Years	-0.1	0.0	0.0		0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0	1.3		
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years						1.2	3.7	0.0	0.0	0.0	0.0		
					10	Lower 25%							0.0	9.5	0.0	0.0	0.0	0.0	
			Below Red Bluff Diversion Dam		10	All Years							0.0	0.0	0.0	0.0	0.0	0.0	
					10	Lower 25%							0.0	0.0	0.0	0.0	0.0	0.0	
				10	All Years							0.0	0.0	1.2	0.0	-6.1	1.2		
				10	Lower 25%							0.0	0.0	0.0	0.0	-23.8	0.0		
		Monthly mean water temperatures (°F)	Below Keswick Dam	68		All Years							0.0	0.0	0.0	0.0	0.0	0.0	
			Below Red Bluff Diversion Dam	68		All Years							0.0	0.0	0.0	0.0	0.0	0.0	
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10	All Years	-1.2	-1.2	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2	
					10	Lower 25%	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below Delevan Intake		10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0	
					10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0
				10	All Years	-1.2	-1.2	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	0.0	-3.7	-8.5	1.2	
				10	Lower 25%	9.5	-4.8	4.8	9.5	-4.8	-4.8	0.0	0.0	0.0	0.0	-9.5	-33.3	0.0	
		Monthly mean water temperatures (°F)	Below RBDD	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.1
			Below Delevan Intake	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	0.4	0.5	
	Freeport	66		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0	1.3		

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years			-1.2	0.0	0.0	1.2	0.0	0.0	0.0					
					10	Lower 25%			0.0	0.0	0.0	0.0	0.0	0.0						
			Below the Delevan Intake		10	All Years			-2.4	0.0	0.0	-1.2	1.2	0.0	1.2					
					10	Lower 25%			-4.8	0.0	0.0	-4.8	4.8	0.0	0.0					
			Rio Vista		10	All Years			-1.2	1.2	2.4	-1.2	-1.2	0.0	0.0					
					10	Lower 25%			-4.8	4.8	9.5	-4.8	-4.8	0.0	0.0					
		Monthly mean water temperatures (°F)	Hamilton City		77	All Years			0.0	0.0	0.0	0.0	0.0	0.0						
			Below the Delevan Intake		77	All Years			0.0	0.0	0.0	0.0	0.0	0.0						
			Freeport		77	All Years			0.0	0.0	0.0	0.0	0.0	0.0						
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years					1.2	0.0	0.0	0.0						
					10	Lower 25%					0.0	0.0	0.0	0.0						
			Below the Delevan Intake		10	All Years						-1.2	1.2	0.0	1.2					
					10	Lower 25%						-4.8	4.8	0.0	0.0					
			Verona		10	All Years						-1.2	0.0	0.0	0.0					
					10	Lower 25%						-4.8	0.0	0.0	0.0					
		Monthly mean water temperatures (°F)	Hamilton City		61	All Years					0.0	0.0	0.0	0.5						
			Below the Delevan Intake		61	All Years					0.0	0.0	0.4	1.4						
			Below the Feather River Confluence		61	All Years					0.0	0.0	0.0	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0		
					10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0		
			Wilkins Slough		10	All Years	0.0	-1.2	0.0	0.0	-1.2	0.0	0.0	1.2	0.0	-6.1	1.2	0.0		
					10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	-23.8	0.0	0.0		
			Freeport		10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2		
					10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0		
		Monthly mean water temperatures (°F)	Below the Delevan Intake		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	0.4	0.5		
			Knights Landing		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-0.2	0.0	0.0	-2.5		
			Freeport		66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0	1.3		

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				1.2	11.0	1.2	3.7	0.0	0.0						
				10	Lower 25%				0.0	0.0	0.0	9.5	0.0	0.0						
			Below the Delevan Intake	10	All Years				0.0	-1.2	1.2	0.0	1.2	0.0						
				10	Lower 25%				0.0	-4.8	4.8	0.0	0.0	0.0	0.0					
			Freeport	10	All Years				1.2	0.0	0.0	0.0	0.0	0.0	0.0					
				10	Lower 25%				4.8	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0				
				10	Lower 25%				0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years				0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%				0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Delevan Intake	10	All Years				0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0				
				10	Lower 25%				0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years			0.0	0.0	0.0	0.0	-0.8	0.3	-0.9	-0.3	-0.2				
			Below Red Bluff Diversion Dam	50-64	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
			Below the Delevan Intake	50-64	All Years			0.0	0.1	-0.3	0.0	-0.1	1.2	1.0	-0.8					
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2			
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8			
			Below the Delevan Intake	10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0			
				10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0			
			Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2			
				10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.6	3.1	0.1			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0			1.2	
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0			-4.8	
			Below the Delevan Intake	10	All Years	0.0	-2.4	0.0	0.0	0.0	-1.2	1.2	0.0	1.2	0.0			0.0
				10	Lower 25%	0.0	-4.8	0.0	0.0	0.0	-4.8	4.8	0.0	0.0	0.0			0.0
			Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0			1.2
				10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0			0.0
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					11.0	1.2	3.7	0.0	0.0	0.0			
				10	Lower 25%					0.0	0.0	9.5	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years					2.4	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%					4.8	0.0	0.0	0.0	0.0	0.0	0.0		
		Below the Delevan Intake	10	All Years					-1.2	1.2	0.0	1.2	0.0	-1.2				
			10	Lower 25%					-4.8	4.8	0.0	0.0	0.0	-4.8				
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years					0.0	0.0	-0.8	0.3	-0.9	-0.3			
				50-64	All Years					0.0	0.0	0.0	0.0	0.0	0.0			
Below Red Bluff Diversion Dam	50-64		All Years					0.1	-0.3	0.0	-0.1	1.2	1.0					
	50-64		All Years															
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2	
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8	
			Below the Delevan Intake	10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0	
				10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0	
			Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
				10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2	
					10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8	
			Below the Delevan Intake		10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	0.0	-1.2	0.0	0.0
					10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0
		Freeport		10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
				10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.3
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.6	0.0	3.2	-1.9
	Freeport	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	0.0	0.0	0.0	0.0	0.5		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years							3.7	0.0	0.0				
					10	Lower 25%								9.5	0.0	0.0			
			Below the Delevan Intake		10	All Years								0.0	1.2	0.0			
					10	Lower 25%								0.0	0.0	0.0			
		Freeport		10	All Years								0.0	0.0	0.0				
				10	Lower 25%								0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years								0.0	0.0	0.0			
				59-64		All Years								0.6	-0.7	1.2			
	Freeport	59-64		All Years								0.2	-1.3	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2		
					10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8		
			Below the Delevan Intake		10	All Years	0.0	-2.4	0.0	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	0.0	-1.2	0.0	0.0
					10	Lower 25%	0.0	-4.8	0.0	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0
			Freeport		10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
					10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0
		Monthly mean water temperatures (°F)	Below Keswick Dam	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Delevan Intake	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Freeport	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years						1.2	3.7	0.0	0.0					
					10	Lower 25%						0.0	9.5	0.0	0.0					
			Below the Delevan Intake		10	All Years							1.2	0.0	1.2	0.0				
					10	Lower 25%							4.8	0.0	0.0	0.0				
			Freeport		10	All Years							0.0	0.0	0.0	0.0				
					10	Lower 25%							0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	60		All Years						0.0	0.0	0.0	0.0					
			Below the Delevan Intake	60		All Years						0.0	1.2	-1.0	0.0					
	Freeport	60		All Years						0.0	-0.2	0.0	0.0							

Splittail in the Sacramento River																		
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years					0.0	0.0	0.0	0.0				
			Freeport	45-75		All Years					0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years							0.0	1.2	0.0				
					10	Lower 25%							0.0	0.0	0.0				
			Verona		10	All Years								0.0	0.0	0.0			
					10	Lower 25%								0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years							0.6	-0.6	0.0				
			Below the Feather River Confluence	59-68		All Years							0.0	0.0	0.0				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	-1.2	0.0	-1.2	0.0	0.0	
					10	Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0	
			Verona		10	All Years	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.2
					10	Lower 25%	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	0.0
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.4	1.4	0.1	0.0	0.0	0.0	-4.3
			Below the Feather River Confluence	61-71		All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.3	-2.5	-0.6	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10		All Years								0.0	0.0	0.0				
					10		Lower 25%								0.0	0.0	0.0				
			Verona		10		All Years									0.0	0.0	0.0			
					10		Lower 25%									0.0	0.0	0.0			
		Freeport		10		All Years										0.0	0.0	0.0			
				10		Lower 25%										0.0	0.0	0.0			
Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60-70 <sup>1</sup>		All Years										0.0	-0.2	0.2					
		Below the Feather River Confluence	60-70		All Years									0.0	1.4	1.3					
		Freeport	60-70		All Years									-0.2	-0.4	-2.9					
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10		All Years	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0		
					10		Lower 25%	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0		
			Verona		10		All Years	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.2
					10		Lower 25%	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	0.0
			Freeport		10		All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
					10		Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0
		Monthly mean water temperatures (°F)	Below the Delevan Intake	63-77		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-3.4	0.1	-1.1	-0.4		
			Below the Feather River Confluence	63-77		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.1	0.0	-0.5		
Freeport	63-77		All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.9	0.0	0.4	0.0	0.4				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	0.0	1.2		
				10	Lower 25%	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	-4.8		
			Below the Delevan Intake	10	All Years	0.0	-2.4	0.0	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	0.0	-1.2	0.0	0.0	
				10	Lower 25%	0.0	-4.8	0.0	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	
			Freeport	10	All Years	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
				10	Lower 25%	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>	All Years							0.0	0.0	0.0	0.0					
			Below the Delevan Intake	59-75	All Years							0.0	0.6	-0.6	0.0					
			Freeport	59-75	All Years							0.0	0.2	0.0	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to Existing Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years				53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0			
					10	Lower 25%				0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0			
			Below Red Bluff Diversion Dam		10	All Years				8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0			
					10	Lower 25%				0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0			
			Feather River		10	All Years				-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9	70.7			
					10	Lower 25%				0.0	9.5	-4.8	-14.3	0.0	0.0	33.3	0.0			
		Freeport		10	All Years				-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0				
				10	Lower 25%				4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0				
		Rio Vista		10	All Years				-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0	23.2				
				10	Lower 25%				9.5	28.6	4.8	-19.0	0.0	0.0	28.6	23.8				
		Monthly mean water temperatures (°F)	Below Keswick Dam		60	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					64	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Below RBDD				60	All Years						0.0	0.0	0.0	0.0	0.0	-1.7	-0.5	-0.5	
					64	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
					68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Feather River			60	All Years						0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0		
				64	All Years						0.0	0.0	0.0	0.0	0.6	-0.2	0.0	0.0		
				68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.1		
	Freeport			60	All Years						0.0	0.0	0.0	-0.1	0.6	0.0	0.0	0.0		
				64	All Years						0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0		
				68	All Years						0.0	0.0	0.0	0.0	0.0	-0.3	0.4	0.0		
	Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years								-35.4	-6.1	-6.1	0.0	0.0	
						10	Lower 25%						0.0	0.0	4.8	0.0	0.0			
Bend Bridge					10	Lower 25%							-24.4	-2.4	0.0	0.0	0.0			
Scaled composite weighted usable area (WUA) (% of Max)			Keswick Dam to Bend Bridge		1	All Years									39.0	51.2	28.0	22.0	26.8	
Monthly mean water temperatures (°F)			Below Keswick Dam		56	All Years								0.0	0.0	0.0	-1.7	-4.6		
					58	All Years								0.0	0.0	0.0	-0.8	-1.7		
					60	All Years								0.0	0.0	0.0	0.0	-1.6		
					62	All Years								0.0	0.0	0.0	0.0	-1.8		
			Ball's Ferry		56	All Years								0.0	-0.6	-0.7	-0.5	-0.9		
					58	All Years								0.0	0.0	0.0	-1.2	-4.3		
					60	All Years								0.0	0.0	0.0	-0.6	-1.6		
					62	All Years								0.0	0.0	0.0	0.0	-1.6		
		Jelly's Ferry		56	All Years								1.6	-9.6	0.2	-1.1	-0.4			
				58	All Years								0.0	-2.7	-0.2	-0.5	-6.7			
				60	All Years								0.0	0.0	0.0	0.0	-2.5			
				62	All Years								0.0	0.0	0.0	0.0	-1.6			
Bend Bridge			56	All Years								1.3	0.4	-1.2	2.5	0.4				
			58	All Years								0.0	-1.4	-2.0	-1.3	-1.8				
			60	All Years								0.0	0.0	0.0	-2.4	-3.8				
			62	All Years								0.0	0.0	0.0	-0.1	-1.5				





Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4		
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	0.0		
			Below Red Bluff Diversion Dam	10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0	0.0	0.0	-4.9	
				10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-1.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-4.6
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below RBDD	60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5	-0.5	-2.3	-6.3	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.4	-1.6	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-3.9	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0					
				10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0					
			Verona	10	All Years	15.9	23.2	-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9					
				10	Lower 25%	9.5	23.8	0.0	9.5	-4.8	-14.3	0.0	0.0	33.3					
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0					
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0					
			Rio Vista	10	All Years	34.1	34.1	-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0					
				10	Lower 25%	14.3	23.8	9.5	28.6	4.8	-19.0	0.0	0.0	28.6					
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5				
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Feather River Confluence	60	All Years	-3.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0				
63	All Years			-0.2	0.0	0.0	0.0	0.0	0.0	1.9	1.3	0.0							
65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0							
68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6						
70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-5.0						
Freeport	60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	63		All Years	2.5	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	0.0	0.0						
	65		All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.9	3.1	0.0						
	68		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0						
	70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.4						
75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.9							





**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5					0.0	0.0	-2.4
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0					0.0	0.0	0.0
			Below Red Bluff Diversion Dam	10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3					0.0	0.0	-4.9
				10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4					0.0	0.0	0.0
			Verona	10	All Years	15.9	23.2	-7.3	-23.2	-17.1	-25.6					70.7	22.0	57.3
				10	Lower 25%	9.5	23.8	0.0	9.5	-4.8	-14.3					0.0	38.1	81.0
		Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8					0.0	8.5	22.0	
			10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0					0.0	33.3	47.6	
		Rio Vista	10	All Years	34.1	34.1	-9.8	-9.8	-7.3	-28.0					23.2	14.6	37.8	
			10	Lower 25%	14.3	23.8	9.5	28.6	4.8	-19.0					23.8	52.4	57.1	
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	-5.3	-7.9	0.0	0.0	0.0	0.0	0.0				-0.6	-6.1	-5.6
				56	All Years	-6.7	0.1	0.0	0.0	0.0	0.0					-1.7	-4.6	-4.1
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	
	52			All Years	-1.7	-6.0	0.0	0.0	0.0	1.8					0.0	0.0	0.0	
	56			All Years	-6.1	0.0	0.0	0.0	0.0	0.0					1.5	0.5	1.5	
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	
	Feather River Confluence		52	All Years	0.0	1.3	0.0	0.0	2.1	1.3					0.0	0.0	0.0	
			56	All Years	0.0	0.0	0.0	0.0	0.0	2.1					0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-5.0	-3.8	-2.5	
			52	All Years	0.0	1.3	0.0	0.0	0.0	3.8					0.0	0.0	0.0	
			56	All Years	0.0	0.5	0.0	0.0	0.0	3.1					0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-4.7	3.8	-5.0	
	Freeport	52	All Years	0.0	1.3	0.0	0.0	0.0	3.8					0.0	0.0	0.0		
		56	All Years	0.0	0.5	0.0	0.0	0.0	3.1					0.0	0.0	0.0		
70		All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0			
52		All Years	0.0	1.3	0.0	0.0	0.0	3.8					0.0	0.0	0.0			
56		All Years	0.0	0.5	0.0	0.0	0.0	3.1					0.0	0.0	0.0			
70		All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0			
Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			53.7	46.3	47.6	-8.5	-35.4	-6.1					
				10	Lower 25%			0.0	14.3	38.1	0.0	0.0	0.0					
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years			0.0	0.0	0.0	0.0	1.4	-1.2					
	54			All Years			0.0	0.0	0.0	0.0	0.0	-1.2						
	57			All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4	
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	4.8	0.0	0.0	0.0		
			Bend Bridge	10	All Years	2.4	-6.1	46.3	39.0	29.3	0.0	-24.4	-2.4	0.0	0.0	0.0	-3.7	
				10	Lower 25%	4.8	-4.8	38.1	81.0	52.4	0.0	-42.9	-9.5	0.0	0.0	0.0	0.0	
			Below Red Bluff Diversion Dam	10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0	0.0	-4.9	
				10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-3.3
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Ball's Ferry	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-3.3	
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Jelly's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-3.3	
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Bend Bridge	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-3.9		
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0				
				10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0				
			Verona	10	All Years	15.9	23.2	-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9				
				10	Lower 25%	9.5	23.8	0.0	9.5	-4.8	-14.3	0.0	0.0	33.3				
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0				
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0				
	Rio Vista	10	All Years	34.1	34.1	-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0						
		10	Lower 25%	14.3	23.8	9.5	28.6	4.8	-19.0	0.0	0.0	28.6						
	Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	52	All Years	-1.7	-6.0	0.0	0.0	0.0	1.8	5.0	0.0	0.0					
			55	All Years	-9.1	0.0	0.0	0.0	0.0	0.0	5.2	9.2	1.0					
			59	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.5					
			52	All Years	0.0	1.3	0.0	0.0	2.1	1.3	0.0	0.0	0.0					
55			All Years	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0						
59			All Years	0.4	0.0	0.0	0.0	0.0	-0.1	0.6	0.0	0.0						
Feather River Confluence	52	All Years	0.0	1.3	0.0	0.0	0.0	3.8	0.0	0.0	0.0							
	55	All Years	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0							
	59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	52	All Years	0.0	1.3	0.0	0.0	0.0	3.8	0.0	0.0	0.0							
	55	All Years	0.0	-1.3	0.0	0.0	0.0	1.3	0.2	0.0	0							

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	6.1	6.1	53.7		47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4
					10	Lower 25%	23.8	0.0	0.0		38.1	0.0	0.0	0.0	4.8	0.0	0.0	0.0
			Below Delevan Intake		10	All Years	63.4	46.3	0.0		-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7
					10	Lower 25%	57.1	38.1	52.4		-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2
		Rio Vista		10	All Years	34.1	34.1	-9.8		-7.3	-28.0	0.0	0.0	11.0	23.2	14.6	37.8	
				10	Lower 25%	14.3	23.8	9.5		4.8	-19.0	0.0	0.0	28.6	23.8	52.4	57.1	
	Monthly mean water temperatures (°F)	Below Keswick Dam		61	All Years	-1.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-1.9
				66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1
		Below Delevan Intake		61	All Years	-0.5	0.0	0.0		0.0	0.0	3.2	2.7	-0.4	0.0	0.0	0.0	-1.5
				66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-2.7	-7.2	-2.3	-2.6	
		Freeport		61	All Years	-2.5	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
				66	All Years	-0.2	0.0	0.0		0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0	0.0
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years						-8.5	-35.4	-6.1	-6.1	0.0	0.0	
					10	Lower 25%						0.0	0.0	0.0	4.8	0.0	0.0	
			Below Red Bluff Diversion Dam		10	All Years							-57.3	-34.1	-3.7	0.0	0.0	0.0
					10	Lower 25%							-52.4	-61.9	-9.5	0.0	0.0	0.0
	Wilkins Slough		10	All Years							-52.4	-4.9	2.4	28.0	90.2	54.9		
			10	Lower 25%							-52.4	0.0	0.0	47.6	71.4	42.9		
Monthly mean water temperatures (°F)	Below Keswick Dam		68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10	All Years	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0	0.0	-4.9
					10	Lower 25%	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0	0.0	0.0
			Below Delevan Intake		10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7
					10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2
		Rio Vista		10	All Years	34.1	34.1	-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0	23.2	14.6	37.8	
				10	Lower 25%	14.3	23.8	9.5	28.6	4.8	-19.0	0.0	0.0	28.6	23.8	52.4	57.1	
	Monthly mean water temperatures (°F)	Below RBDD		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-1.9
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-7.2	-2.3	-2.6	
		Freeport		66	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0



**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			46.3	47.6	-8.5	-35.4	-6.1	-6.1						
				10	Lower 25%			14.3	38.1	0.0	0.0	0.0	4.8						
			Below the Delevan Intake	10	All Years			-32.9	-39.0	-58.5	-3.7	-1.2	14.6						
				10	Lower 25%			33.3	-4.8	-47.6	0.0	0.0	28.6						
			Freeport	10	All Years			-11.0	-3.7	-26.8	0.0	0.0	0.0						
				10	Lower 25%			28.6	4.8	-19.0	0.0	0.0	0.0						
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0				
				10	Lower 25%			14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0				
			Below Red Bluff Diversion Dam	10	All Years			-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0	0.0				
				10	Lower 25%			4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0	0.0				
			Below the Delevan Intake	10	All Years			-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8				
				10	Lower 25%			33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6				
	Monthly mean water temperatures (°F)	50-64 <sup>1</sup>	All Years	Below Keswick Dam					0.0	0.0	0.0	5.7	1.9	0.9	0.5	1.7			
				Below Red Bluff Diversion Dam					0.0	0.0	2.4	-0.1	0.0	0.0	0.0	1.6			
				Below the Delevan Intake	50-64					0.0	-0.1	0.4	0.0	0.8	12.7	3.8	-6.4		
					50-64														
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years		6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4		
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	4.8	0.0	0.0				
			Below the Delevan Intake	10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7		
				10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2		
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	8.5	22.0		
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	33.3	47.6		
		Monthly mean water temperatures (°F)	72	All Years	Below Keswick Dam				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					Below the Delevan Intake					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					Freeport	72													
						72													

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1				-2.4		
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8				0.0		
			Below the Delevan Intake	10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6					70.7	
				10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6					95.2	
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0						22.0
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0						47.6
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					47.6	-8.5	-35.4	-6.1	-6.1	0.0					
				10	Lower 25%					38.1	0.0	0.0	0.0	4.8	0.0					
			Below Red Bluff Diversion Dam	10	All Years						-18.3	-57.3	-34.1	-3.7	0.0	0.0				
				10	Lower 25%							-4.8	-52.4	-61.9	-9.5	0.0	0.0			
			Below the Delevan Intake	10	All Years							-39.0	-58.5	-3.7	-1.2	14.6	86.6			
				10	Lower 25%								-4.8	-47.6	0.0	0.0	28.6	57.1		
	Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years						0.0	0.0	5.7	1.9	0.9	0.5					
			50-64	All Years						0.0	2.4	-0.1	0.0	0.0	0.0					
			50-64	All Years							-0.1	0.4	0.0	0.8	12.7	3.8				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4		
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0				
			Below the Delevan Intake	10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7			
				10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2			
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	0.0	8.5	22.0		
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	0.0	33.3	47.6		
	Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	-6.3	-3.1	0.2				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4		
					10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	4.8	0.0	0.0				
			Below the Delevan Intake		10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7		
					10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2		
			Freeport		10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	8.5	22.0		
					10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	33.3	47.6		
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	
			Below the Delevan Intake	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-6.2	-12.0	1.4	-7.8	
			Freeport	65-82		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.2	
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years														
					10	Lower 25%														
			Below the Delevan Intake		10	All Years														
					10	Lower 25%														
			Freeport		10	All Years														
					10	Lower 25%														
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years														
			Below the Delevan Intake	59-64		All Years														
			Freeport	59-64		All Years														

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



Splittail in the Sacramento River																		
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years					0.2	0.0	0.0	0.0				
			Freeport	45-75		All Years					0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years								-3.7	-1.2	14.6				
					10	Lower 25%								0.0	0.0	28.6				
			Verona		10	All Years								0.0	0.0	15.9				
					10	Lower 25%								0.0	0.0	33.3				
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years								7.5	0.3	0.0				
			Below the Feather River Confluence	59-68		All Years								0.6	0.0	0.6				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7		
					10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2		
			Verona		10	All Years	15.9	23.2	-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9	70.7	22.0	57.3		
					10	Lower 25%	9.5	23.8	0.0	9.5	-4.8	-14.3	0.0	0.0	33.3	0.0	38.1	81.0		
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.2	2.7	-0.4	0.0	1.6	-1.5	
			Below the Feather River Confluence	61-71		All Years	-6.3	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-1.3	1.3	16.3	0.0	-0.4	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10	All Years													
					10	Lower 25%							-34.1	-3.7	0.0				
			Verona		10	All Years								0.0	0.0	15.9			
					10	Lower 25%								0.0	0.0	33.3			
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam		60-70 <sup>1</sup>		All Years								0.0	-1.7	-0.5		
					60-70		All Years							2.7	0.9	5.0			
			Freeport		60-70		All Years							0.6	-1.3	-1.9			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7	
					10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2	
			Verona		10	All Years	15.9	23.2	-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9	70.7	22.0	57.3	
					10	Lower 25%	9.5	23.8	0.0	9.5	-4.8	-14.3	0.0	0.0	33.3	0.0	38.1	81.0	
		Freeport		10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	0.0	8.5	22.0	
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	33.3	47.6		
		Monthly mean water temperatures (°F)	Below the Delevan Intake		63-77		All Years			0.0	0.0	0.0	0.0	0.0	3.9	-9.3	-6.1	-2.4	2.8
					63-77		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	1.9	1.3	0.0	0.1	0.0	-1.3
			Freeport		63-77		All Years	-1.7	0.0	0.0	0.0	0.0	0.0	1.9	3.1	0.0	0.9	0.0	0.2

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	0.0	-2.4		
				10	Lower 25%	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0		
			Below the Delevan Intake	10	All Years	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7			
				10	Lower 25%	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2			
			Freeport	10	All Years	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	8.5	22.0			
				10	Lower 25%	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	33.3	47.6			
			Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>	All Years						0.0	0.0	0.0	0.0			
						Below the Delevan Intake	59-75	All Years						0.0	7.5	0.3	0.0			
Freeport	59-75	All Years									-0.1	0.3	0.0	0.0						

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to No Action Alternative Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative									
			Description	Value	%	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam	10	All Years	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0				
				10	Lower 25%	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0				
			Below Red Bluff Diversion Dam	10	All Years	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0				
				10	Lower 25%	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0				
			Feather River	10	All Years	0.0	-22.0	-13.4	-20.7	0.0	0.0	6.1	42.7				
				10	Lower 25%	23.8	14.3	4.8	-14.3	0.0	0.0	0.0	14.3				
			Freeport	10	All Years	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7				
				10	Lower 25%	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3				
			Rio Vista	10	All Years	-6.1	-19.5	-9.8	-29.3	-1.2	0.0	3.7	28.0				
				10	Lower 25%	19.0	9.5	4.8	-19.0	0.0	0.0	9.5	42.9				
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Below RBDD		60	All Years	0.0	0.0	0.0	0.0	0.0	-1.5	-0.7	-1.9				
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Feather River		60	All Years	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0				
				64	All Years	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.1				
		Freeport		60	All Years	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0				
				64	All Years	0.0	0.0	0.0	0.0	1.6	-1.3	0.0	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0				
		Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam	10	All Years						-25.6	-6.1	-11.0	0.0	0.0
						10	Lower 25%						0.0	0.0	4.8	0.0	0.0
Bend Bridge	10				All Years						-7.3	-3.7	0.0	0.0	0.0		
	10			Lower 25%						-23.8	-14.3	0.0	0.0	0.0			
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge			1	All Years						19.5	48.8	51.2	50.0	47.6		
Monthly mean water temperatures (°F)	Below Keswick Dam			56	All Years					0.0	0.0	0.0	-2.6	-3.6			
				58	All Years					0.0	0.0	0.0	-0.6	-2.2			
				60	All Years					0.0	0.0	0.0	0.0	-1.7			
				62	All Years					0.0	0.0	0.0	0.0	-1.6			
	Ball's Ferry			56	All Years					0.0	-1.2	-0.5	-2.0	0.0			
				58	All Years					0.0	0.0	-0.2	-3.1	-4.1			
				60	All Years					0.0	0.0	0.0	-0.6	-1.9			
				62	All Years					0.0	0.0	0.0	0.0	-1.5			
	Jelly's Ferry			56	All Years					1.5	-10.4	-0.1	3.3	-2.2			
				58	All Years					0.0	-2.1	-0.3	-0.6	-7.7			
				60	All Years					0.0	0.0	0.0	-0.1	-2.5			
				62	All Years					0.0	0.0	0.0	0.0	-1.6			
Bend Bridge	56			All Years					1.2	1.4	-3.6	1.3	-3.5				
	58			All Years					0.0	-1.6	-1.0	-1.8	-1.6				
	60			All Years					0.0	0.0	0.0	-0.6	-3.8				
	62			All Years					0.0	0.0	0.0	-0.3	-1.6				

**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative								
			Description	Value	%	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Juvenile Rearing and Emigration	July through April	Monthly mean Flow (cfs)	Below of Keswick Dam	10	All Years	54.9	42.7	46.3	-11.0	-25.6			0.0	0.0	-4.9	
				10	Lower 25%	4.8	14.3	38.1	0.0	0.0			0.0	0.0	4.8	
			Below Red Bluff Diversion Dam	10	All Years	22.0	-26.8	-28.0	-56.1	-17.1			0.0	0.0	-3.7	
				10	Lower 25%	33.3	-4.8	-4.8	-47.6	-33.3			0.0	0.0	0.0	
			Feather River	10	All Years	0.0	-22.0	-13.4	-20.7	0.0			42.7	13.4	51.2	
				10	Lower 25%	23.8	14.3	4.8	-14.3	0.0			14.3	42.9	81.0	
			Freeport	10	All Years	-2.4	-17.1	-9.8	-23.2	0.0			3.7	13.4	31.7	
				10	Lower 25%	4.8	0.0	-4.8	-19.0	0.0			14.3	47.6	61.9	
			Rio Vista	10	All Years	-6.1	-19.5	-9.8	-29.3	-1.2			28.0	17.1	54.9	
				10	Lower 25%	19.0	9.5	4.8	-19.0	0.0			42.9	61.9	71.4	
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-1.7	-0.7
					63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.2	-3.4
		65			All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-3.2	
		68			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
		70			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
		75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
		Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0			-1.9	-4.6	-4.9
					63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-1.4	-2.2
					65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.1	-3.6
					68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
					70	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
		Feather River			60	All Years	0.0	0.0	0.0	0.0	0.0	2.7		0.0	0.0	0.0
					63	All Years	0.0	0.0	0.0	0.0	0.0	1.9		0.0	0.0	-0.7
					65	All Years	0.0	0.0	0.0	0.0	0.0	2.0		0.0	0.0	2.2
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0		-1.1	0.0	-4.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0		-4.0	-3.8	-5.0	
		Freeport		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.8		0.0	0.0	0.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	3.1		0.0	0.0	-0.2	
				65	All Years	0.0	0.0	0.0	0.0	0.0	-0.4		0.0	0.0	-0.3	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	-6.3	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0		-5.3	0.6	-6.9	
		75		All Years	0.0	0.0	0.0	0.0	0.0	0.0		-0.4	0.0	0.0		







**Late Fall-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	October through April	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6							
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0							
			Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1							
				10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3							
			Verona	10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0							
				10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3	0.0							
		Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0								
			10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0								
		Rio Vista	10	All Years	48.8	47.6	-6.1	-19.5	-9.8	-29.3	-1.2								
			10	Lower 25%	9.5	42.9	19.0	9.5	4.8	-19.0	0.0								
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	60			All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	64			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	Below Red Bluff Diversion Dam		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			60	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7							
			64	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.9							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	Feather River Confluence	60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.8							
		64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6								
68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
60		All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Freeport	60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.8								
	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Spawning, egg incubation, and initial rearing	January through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				42.7	46.3	-11.0	-25.6	-6.1						
				10	Lower 25%				14.3	38.1	0.0	0.0	0.0						
			Bend Bridge	10	All Years				37.8	14.6	-1.2	-7.3	-3.7						
				10	Lower 25%				76.2	47.6	0.0	-23.8	-14.3						
		Monthly mean water temperatures (°F)	Below Keswick Dam	56	All Years				0.0	0.0	0.0	0.0	0.0						
				58	All Years				0.0	0.0	0.0	0.0	0.0						
				60	All Years				0.0	0.0	0.0	0.0	0.0						
				62	All Years				0.0	0.0	0.0	0.0	0.0						
				Ball's Ferry	56	All Years				0.0	0.0	0.0	0.0	0.0	-1.2				
					58	All Years				0.0	0.0	0.0	0.0	0.0	0.0				
			60		All Years				0.0	0.0	0.0	0.0	0.0	0.0					
			62		All Years				0.0	0.0	0.0	0.0	0.0	0.0					
	Jelly's Ferry		56		All Years				0.0	0.0	0.0	0.0	1.5	-10.4					
			58		All Years				0.0	0.0	0.0	0.0	0.0	-2.1					
			60	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
			62	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
		Bend Bridge	56	All Years				0.0	0.0	0.0	0.0	1.2	1.4						
			58	All Years				0.0	0.0	0.0	0.0	0.0	-1.6						
	60		All Years				0.0	0.0	0.0	0.0	0.0	0.0							
	62		All Years				0.0	0.0	0.0	0.0	0.0	0.0							
	Juvenile Rearing and Emigration		Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0	0.0	-3.7
						10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0	0.0	0.0
		Verona			10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0	0.0	6.1	42.7	13.4	51.2	
					10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3	0.0	0.0	0.0	14.3	42.9	81.0	
Freeport		10			All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	3.7	13.4	31.7			
		10			Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	14.3	47.6	61.9			
Rio Vista		10		All Years	48.8	47.6	-6.1	-19.5	-9.8	-29.3	-1.2	0.0	3.7	28.0	17.1	54.9			
		10		Lower 25%	9.5	42.9	19.0	9.5	4.8	-19.0	0.0	0.0	9.5	42.9	61.9	71.4			
Monthly mean water temperatures (°F)		Below Red Bluff Diversion Dam		60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.7	-1.9	-4.6	-4.9	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.4	-2.2	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-3.6	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Feather River Confluence	60	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	2.7								
			63	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	1.9	2.5							
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2		
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.1	0.0	-4.6		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-3.8	-4.0	-3.8	-5.0		
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.7	0.0		
Freeport		60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0			
		63	All Years	-2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.2			
		65	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	-0.3			
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	-6.3			
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-1.0	5.3	0.6				
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0				

**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0					0.0	0.0	-4.9	
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0					0.0	0.0	4.8	
			Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1					0.0	0.0	-3.7	
				10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6					0.0	0.0	0.0	
			Verona	10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7					42.7	13.4	51.2	
				10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3					14.3	42.9	81.0	
		Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2					3.7	13.4	31.7		
			10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0					14.3	47.6	61.9		
		Rio Vista	10	All Years	48.8	47.6	-6.1	-19.5	-9.8	-29.3					28.0	17.1	54.9		
			10	Lower 25%	9.5	42.9	19.0	9.5	4.8	-19.0					42.9	61.9	71.4		
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	-5.6	-7.9	-0.7	0.0	0.0	0.0					1.2	-5.5	-5.7	
				56	All Years	-9.4	0.4	0.0	0.0	0.0	0.0					-2.6	-3.6	-4.2	
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0		
	52			All Years	-1.6	-6.8	0.0	0.0	0.0	0.0	0.9				0.0	0.0	0.0		
	56			All Years	-6.9	0.0	0.0	0.0	0.0	0.0	0.0				1.4	1.0	-1.1		
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0		
	Feather River Confluence		52	All Years	0.0	1.3	0.0	0.0	1.9	1.3					0.0	0.0	0.0		
			56	All Years	0.0	-0.3	0.0	0.0	0.0	2.5					0.0	0.0	0.0		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-4.0	-3.8	-5.0		
	Freeport		52	All Years	0.0	2.5	0.0	0.0	0.0	2.5					0.0	0.0	0.0		
			56	All Years	0.0	0.0	0.0	0.0	0.0	1.3					0.0	0.0	0.0		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-5.3	0.6	-6.9		
	Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			54.9	42.7	46.3	-11.0	-25.6	-6.1					
					10	Lower 25%			4.8	14.3	38.1	0.0	0.0	0.0					
Monthly mean water temperatures (°F)		Below Keswick Dam	52	All Years			-0.7	0.0	0.0	0.0	0.0	1.5	-1.1						
			54	All Years			0.0	0.0	0.0	0.0	0.0	0.0	-1.2						
			57	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9		
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	4.8	0.0	0.0	4.8			
			Bend Bridge	10	All Years	3.7	1.2	52.4	37.8	14.6	-1.2	-7.3	-3.7	0.0	0.0	0.0	-3.7		
				10	Lower 25%	4.8	0.0	42.9	76.2	47.6	0.0	-23.8	-14.3	0.0	0.0	0.0	4.8		
			Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0	0.0	-3.7		
				10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.2
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Ball's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.8
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Jelly's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-1.7		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Bend Bridge	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-3.6		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	All Years	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0					
				10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0					
			Verona	10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0	0.0	0.0	6.1				
				10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3	0.0	0.0	0.0					
			Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0					
				10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0					
		Rio Vista	10	All Years	48.8	47.6	-6.1	-19.5	-9.8	-29.3	-1.2	0.0	0.0	3.7					
			10	Lower 25%	9.5	42.9	19.0	9.5	4.8	-19.0	0.0	0.0	9.5						
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	52	All Years	-1.6	-6.8	0.0	0.0	0.0	0.0	0.9	4.7	0.0	0.0				
	55			All Years	-12.7	0.0	0.0	0.0	0.0	0.0	6.2	7.1	2.0						
	59			All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.5						
	Feather River Confluence		52	All Years	0.0	1.3	0.0	0.0	1.9	1.3	0.0	0.0	0.0						
			55	All Years	0.0	0.6	0.0	0.0	0.0	1.3	0.0	0.0	0.0						
			59	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0						
	Freeport		52	All Years	0.0	2.5	0.0	0.0	0.0	2.5	0.0	0.0	0.0						
			55	All Years	0.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			59	All Years	-1.3	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0						

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9		46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9	
				10	Lower 25%	38.1	9.5	4.8		38.1	0.0	0.0	0.0	4.8	0.0	4.8		
			Below Delevan Intake	10	All Years	63.4	53.7	13.4		-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9	
				10	Lower 25%	47.6	47.6	85.7		-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0	
			Rio Vista	10	All Years	48.8	47.6	-6.1		-9.8	-29.3	-1.2	0.0	3.7	28.0	17.1	54.9	
				10	Lower 25%	9.5	42.9	19.0		4.8	-19.0	0.0	0.0	9.5	42.9	61.9	71.4	
		Monthly mean water temperatures (°F)	Below Keswick Dam	61	All Years	-1.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.2
				66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1
			Below Delevan Intake	61	All Years	-0.2	0.0	0.0		0.0	0.0	2.8	1.3	-0.5	0.0	0.0	2.8	
				66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-2.0	-6.0	-2.7	-3.2	
			Freeport	61	All Years	-4.4	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	
				66	All Years	-0.1	0.0	0.0		0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3	
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-11.0	-25.6	-6.1	-11.0	0.0	0.0		
				10	Lower 25%						0.0	0.0	0.0	4.8	0.0	0.0		
			Below Red Bluff Diversion Dam	10	All Years						-56.1	-17.1	-7.3	0.0	0.0	0.0		
				10	Lower 25%						-47.6	-33.3	-9.5	0.0	0.0	0.0		
		Wilkins Slough	10	All Years						-53.7	-8.5	1.2	28.0	97.6	64.6			
			10	Lower 25%						-52.4	0.0	0.0	57.1	95.2	71.4			
Monthly mean water temperatures (°F)	Below Keswick Dam	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0				
	Below Red Bluff Diversion Dam	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0	0.0	-3.7	
				10	Lower 25%	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0	0.0	0.0	
			Below Delevan Intake	10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9	
				10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0	
			Rio Vista	10	All Years	48.8	47.6	-6.1	-19.5	-9.8	-29.3	-1.2	0.0	3.7	28.0	17.1	54.9	
				10	Lower 25%	9.5	42.9	19.0	9.5	4.8	-19.0	0.0	0.0	9.5	42.9	61.9	71.4	
		Monthly mean water temperatures (°F)	Below RBDD	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.8	
			Below Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-6.0	-2.7	-3.2
			Freeport	66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years		1.2	9.8	-25.6	-31.7	-63.4	-23.2	-8.5					
					10	Lower 25%		0.0	38.1	14.3	0.0	-66.7	-61.9	-28.6					
			Below the Delevan Intake		10	All Years		53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2					
					10	Lower 25%		47.6	85.7	19.0	-4.8	-47.6	0.0	0.0					
		Rio Vlsta		10	All Years		47.6	-6.1	-19.5	-9.8	-29.3	-1.2	0.0						
				10	Lower 25%		42.9	19.0	9.5	4.8	-19.0	0.0	0.0						
		Monthly mean water temperatures (°F)	Hamilton City		77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
	Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years						-31.7	-63.4	-23.2	-8.5				
					10	Lower 25%					0.0	-66.7	-61.9	-28.6					
			Below the Delevan Intake		10	All Years						-42.7	-58.5	-6.1	1.2				
					10	Lower 25%						-4.8	-47.6	0.0	0.0				
		Verona		10	All Years						-13.4	-20.7	0.0	0.0					
				10	Lower 25%						4.8	-14.3	0.0	0.0					
		Monthly mean water temperatures (°F)	Hamilton City		61	All Years					0.0	0.0	0.0	-0.5					
				Below the Delevan Intake	61	All Years					0.0	0.0	2.8	1.3					
	Below the Feather River Confluence	61	All Years					0.0	0.0	1.9	0.0								
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9	
					10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0	
			Wilkins Slough		10	All Years	70.7	61.0	17.1	-28.0	-25.6	-53.7	-8.5	1.2	28.0	97.6	64.6	67.1	
					10	Lower 25%	66.7	61.9	85.7	9.5	-4.8	-52.4	0.0	0.0	57.1	95.2	71.4	100.0	
		Freeport		10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	0.0	3.7	13.4	31.7	
				10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	0.0	14.3	47.6	61.9	
		Monthly mean water temperatures (°F)	Below the Delevan Intake		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-6.0	-2.7	-3.2
				Knights Landing	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-3.7	-0.6	0.0	0.2
	Freeport	66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3			

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				42.7	46.3	-11.0	-25.6	-6.1	-11.0						
				10	Lower 25%				14.3	38.1	0.0	0.0	0.0	4.8						
			Below the Delevan Intake	10	All Years				-37.8	-42.7	-58.5	-6.1	1.2	7.3						
				10	Lower 25%				19.0	-4.8	-47.6	0.0	0.0	33.3						
			Freeport	10	All Years				-17.1	-9.8	-23.2	0.0	0.0	0.0						
				10	Lower 25%				0.0	-4.8	-19.0	0.0	0.0	0.0						
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0				
				10	Lower 25%				14.3	38.1	0.0	0.0	4.8	0.0	0.0					
			Below Red Bluff Diversion Dam	10	All Years				-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0	0.0				
				10	Lower 25%				-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0	0.0				
			Below the Delevan Intake	10	All Years				-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2				
				10	Lower 25%				19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1				
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years				0.0	0.0	0.0	6.4	1.5	1.8	0.9	2.0				
				50-64	All Years				0.0	0.0	2.3	-0.2	0.0	0.0	0.0	1.5				
			Below the Delevan Intake	50-64	All Years				0.0	-0.2	0.7	0.0	0.9	11.5	2.8	-5.6				
				50-64	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9			
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8			
			Below the Delevan Intake	10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9			
				10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0			
			Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7			
				10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

River Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0				-4.9		
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8				4.8		
			Below the Delevan Intake	10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3					65.9	
				10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3					100.0	
			Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0						31.7
				10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0						61.9
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					46.3	-11.0	-25.6	-6.1	-11.0	0.0					
				10	Lower 25%					38.1	0.0	0.0	0.0	4.8	0.0					
			Below Red Bluff Diversion Dam	10	All Years					-28.0	-56.1	-17.1	-7.3	0.0	0.0					
				10	Lower 25%					-4.8	-47.6	-33.3	-9.5	0.0	0.0					
		Below the Delevan Intake	10	All Years					-42.7	-58.5	-6.1	1.2	7.3	92.7						
			10	Lower 25%					-4.8	-47.6	0.0	0.0	33.3	81.0						
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years					0.0	0.0	6.4	1.5	1.8	0.9					
				50-64	All Years					0.0	2.3	-0.2	0.0	0.0	0.0	0.0				
Below the Delevan Intake	50-64		All Years					-0.2	0.7	0.0	0.9	11.5	2.8							
	50-64		All Years																	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0		-4.9		
				10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8			
			Below the Delevan Intake	10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9			
				10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0			
			Freeport	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7			
				10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9		
					10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8		
			Below the Delevan Intake		10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9		
					10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0		
			Freeport		10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7		
					10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9		
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.2	
			Below the Delevan Intake	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-8.8	-12.1	-1.8	-5.9	
			Freeport	65-82		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	0.0	0.0	-0.3	
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years								-25.6	-6.1	-11.0				
					10	Lower 25%									0.0	0.0	4.8			
			Below the Delevan Intake		10	All Years										-6.1	1.2	7.3		
					10	Lower 25%										0.0	0.0	33.3		
			Freeport		10	All Years										0.0	0.0	0.0		
					10	Lower 25%										0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years									0.0	0.0	0.0			
			Below the Delevan Intake	59-64		All Years									6.9	1.9	11.5			
			Freeport	59-64		All Years									-1.5	1.3	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9	
					10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8	
			Below the Delevan Intake		10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9	
					10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0	
			Freeport		10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7	
					10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9	
		Monthly mean water temperatures (°F)	Below Keswick Dam		86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Delevan Intake		86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years							-11.0	-25.6	-6.1	-11.0			
					10	Lower 25%							0.0	0.0	0.0	4.8			
			Below the Delevan Intake		10	All Years							-58.5	-6.1	1.2	7.3			
					10	Lower 25%							-47.6	0.0	0.0	33.3			
			Freeport		10	All Years							-23.2	0.0	0.0	0.0			
					10	Lower 25%							-19.0	0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Keswick Dam		60	All Years							0.0	0.0	0.0	0.0			
					60	All Years							0.0	8.6	0.0	0.0			
			Below the Delevan Intake		60	All Years							0.0	8.6	0.0	0.0			
					60	All Years							-0.1	0.8	0.0	0.0			

Splittail in the Sacramento River																			
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years						0.2	0.0	0.0	0.0				
			Freeport	45-75		All Years							0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years															
					10	Lower 25%															
			Verona		10	All Years															
					10	Lower 25%															
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68'		All Years															
			Below the Feather River Confluence	59-68		All Years															
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9			
					10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0			
			Verona		10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0	0.0	6.1	42.7	13.4	51.2			
					10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3	0.0	0.0	0.0	14.3	42.9	81.0			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	2.8	1.3	-0.5	0.0	1.6	2.8			
			Below the Feather River Confluence	61-71		All Years	-7.5	0.0	0.0	0.0	0.0	0.0	1.9	-1.3	0.0	15.0	2.5	0.2			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10	All Years															
					10	Lower 25%															
			Verona		10	All Years															
					10	Lower 25%															
					10	All Years															
					10	Lower 25%															
Monthly mean water temperatures (°F)	Freeport		10	All Years																	
			10	Lower 25%																	
			10	Lower 25%																	
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9			
					10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0			
			Verona		10	All Years	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0	0.0	6.1	42.7	13.4	51.2			
					10	Lower 25%	14.3	38.1	23.8	14.3	4.8	-14.3	0.0	0.0	0.0	14.3	42.9	81.0			
			Freeport		10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7			
					10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9			
Monthly mean water temperatures (°F)	Freeport		63-77		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	-5.9	-6.1	-1.2	3.2				
			63-77		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	1.9	2.5	0.0	0.0	0.0	-0.7				
			63-77		All Years	-2.9	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.5	0.0	-0.2				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	10	All Years	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9	
				10	10	Lower 25%	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8	
			Below the Delevan Intake	10	10	All Years	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9	
				10	10	Lower 25%	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0	
			Freeport	10	10	All Years	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	0.0	3.7	13.4	31.7
				10	10	Lower 25%	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9	
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>		All Years						0.0	0.0	0.0	0.0				
			Below the Delevan Intake	59-75		All Years						0.0	6.9	1.0	0.0				
			Freeport	59-75		All Years						-0.1	0.1	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to Existing Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition								
			Description	Value	%	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam	10		All Years	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0		
				10		Lower 25%	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0		
			Below Red Bluff Diversion Dam	10		All Years	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0		
				10		Lower 25%	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0		
			Verona	10		All Years	0.0	-2.4	-1.2	-35.4	-2.4	-1.2	14.6	52.4		
				10		Lower 25%	9.5	9.5	4.8	-14.3	0.0	0.0	33.3	9.5		
			Freeport	10		All Years	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2		
				10		Lower 25%	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8		
			Rio Vista	10		All Years	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0		
				10		Lower 25%	19.0	33.3	9.5	-14.3	4.8	4.8	47.6	9.5		
		Monthly mean water temperatures (°F)	Below Keswick Dam	60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below RBDD	60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.2	-0.1	
				64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River Confluence	60		All Years	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0		
				64		All Years	0.0	0.0	0.0	0.0	1.9	0.4	0.0	0.0		
				68		All Years	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.7		
			Freeport	60		All Years	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0		
64		All Years		0.0	0.0	0.0	0.0	0.6	2.5	0.0	0.0					
68		All Years		0.0	0.0	0.0	0.0	0.0	2.2	0.4	0.0					
Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam	10		All Years					-45.1	-25.6	-3.7	0.0	0.0	
				10		Lower 25%					14.3	0.0	0.0	0.0	0.0	
			Bend Bridge	10		All Years					-43.9	-8.5	0.0	0.0	0.0	
				10		Lower 25%					-52.4	-28.6	0.0	0.0	0.0	
		Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge		1		All Years					43.9	52.4	28.0	-11.0	8.5
		Monthly mean water temperatures (°F)	Below Keswick Dam	56		All Years					0.0	0.4	0.0	-1.9	-2.3	
				58		All Years				0.0	0.0	0.0	-1.0	-1.4		
				60		All Years				0.0	0.0	0.0	0.0	-2.3		
				62		All Years				0.0	0.0	0.0	0.0	-2.7		
			Ball's Ferry	56		All Years					0.0	0.2	0.4	-0.4	-1.1	
				58		All Years					0.0	0.0	-0.1	-1.2	-2.6	
				60		All Years					0.0	0.0	0.0	-0.6	-1.8	
				62		All Years					0.0	0.0	0.0	0.0	-2.6	
			Jelly's Ferry	56		All Years					1.0	-5.3	1.1	-3.5	-6.0	
				58		All Years					0.0	-1.5	-0.1	-0.4	-4.1	
				60		All Years					0.0	0.0	0.0	0.2	-1.9	
				62		All Years					0.0	0.0	0.0	0.0	-2.5	
		Bend Bridge	56		All Years					1.0	2.9	-2.0	-1.9	1.3		
			58		All Years					0.0	-1.2	-0.7	-0.6	-0.5		
			60		All Years					0.0	0.0	0.0	-2.9	-3.3		
62			All Years					0.0	0.0	0.0	-0.1	-2.4				

Juvenile Rearing and Emigration	July through April	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	52.4	43.9	48.8	-12.2	-45.1			0.0	0.0	6.1	
				10	Lower 25%	0.0	23.8	38.1	0.0	14.3			0.0	0.0	23.8	
			Below Red Bluff Diversion Dam	10	All Years	12.2	-25.6	-20.7	-73.2	-62.2			0.0	0.0	2.4	
				10	Lower 25%	4.8	14.3	-4.8	-61.9	-81.0			0.0	0.0	9.5	
			Verona	10	All Years	0.0	-2.4	-1.2	-35.4	-2.4			52.4	23.2	59.8	
				10	Lower 25%	9.5	9.5	4.8	-14.3	0.0			9.5	23.8	76.2	
		Freeport	10	All Years	-1.2	8.5	2.4	-31.7	0.0			1.2	8.5	23.2		
			10	Lower 25%	0.0	33.3	9.5	-14.3	0.0			4.8	33.3	57.1		
		Rio Vista	10	All Years	1.2	8.5	2.4	-39.0	1.2			22.0	20.7	36.6		
			10	Lower 25%	19.0	33.3	9.5	-14.3	4.8			9.5	47.6	71.4		
		Monthly mean water temperatures (°F)	July through April	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.3	-2.1
					63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.0	-1.8
					65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-3.3
					68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
	70				All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0			-0.1	-1.4	-6.2	
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.2	-2.4	-0.6	
				65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.9	-3.8	
				68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Feather River Confluence			60	All Years	0.0	0.0	0.0	0.0	2.5			0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	3.1			0.0	0.0	-1.3	
			65	All Years	0.0	0.0	0.0	0.0	2.4			0.0	0.0	0.2		
			68	All Years	0.0	0.0	0.0	0.0	0.0			-1.7	0.0	-3.8		
			70	All Years	0.0	0.0	0.0	0.0	0.0			-6.9	-3.8	-2.9		
	75		All Years	0.0	0.0	0.0	0.0	0.0			0.2	-1.5	0.0			
Freeport	60		All Years	0.0	0.0	0.0	0.0	1.0			0.0	0.0	0.0			
	63		All Years	0.0	0.0	0.0	0.0	2.5			0.0	0.0	0.4			
	65		All Years	0.0	0.0	0.0	0.0	0.3			0.0	0.0	-0.7			
	68		All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-2.5			
	70		All Years	0.0	0.0	0.0	0.0	0.0			-3.4	5.0	-6.3			
75	All Years		0.0	0.0	0.0	0.0	0.0			-0.3	0.0	0.0				







Late Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	October through April	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1							
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3							
			Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2							
				10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0							
			Verona	10	All Years	15.9	29.3	0.0	-2.4	-1.2	-35.4	-2.4							
				10	Lower 25%	9.5	14.3	9.5	9.5	4.8	-14.3	0.0							
		Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0								
			10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0								
		Rio Vista	10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2								
			10	Lower 25%	19.0	28.6	19.0	33.3	9.5	-14.3	4.8								
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	60			All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	64			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	Feather River Confluence		60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5							
			64	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.9							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	Freeport		60	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0							
			64	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.6							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	Spawning, egg incubation, and initial rearing	January through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				43.9	48.8	-12.2	-45.1	-25.6					
					10	Lower 25%				23.8	38.1	0.0	14.3	0.0					
Bend Bridge			10	All Years				40.2	34.1	-4.9	-43.9	-8.5							
			10	Lower 25%				81.0	61.9	0.0	-52.4	-28.6							
Below Keswick Dam			56	All Years				0.0	0.0	0.0	0.0	0.0	0.4						
			58	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
			60	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
			62	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
			56	All Years				0.0	0.0	0.0	0.0	0.0	0.2						
			62	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
Ball's Ferry			58	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
			60	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
		62	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
Jelly's Ferry		56	All Years				0.0	0.0	0.0	0.0	0.0	1.0	-5.3						
		58	All Years				0.0	0.0	0.0	0.0	0.0	-1.5							
		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Bend Bridge		56	All Years				0.0	0.0	0.0	0.0	0.0	1.0	2.9						
		58	All Years				0.0	0.0	0.0	0.0	0.0	-1.2							
		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
Monthly mean water temperatures (°F)		Below Keswick Dam	60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.2	-0.1	-1.4	-6.2			
			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-2.4	-0.6			
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-3.8			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
	Feather River Confluence	60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0				
		63	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	3.1	2.1	0.0	0.0	0.0	-1.3			
		65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.3	0.0	0.0	0.0	0.2			
	Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.7	0.0	-3.8			
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-3.8	-6.9	-3.8	-2.9			
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.5	0.0			
Below Red Bluff Diversion Dam	60	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0				
	63	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.5	3.1	0.0	0.0	0.0	0.0	0.4			
	65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	0.0	0.0	0.0	0.0	-0.7			
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.4	0.0	0.0	0.0	-2.5			
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	-1.3	-3.4	5.0	-6.3				
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0	0.0	2.4		
				10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0	0.0	9.5		
			Verona	10	All Years	15.9	29.3	0.0	-2.4	-1.2	-35.4	-2.4	-1.2	14.6	52.4	23.2	69.8		
				10	Lower 25%	9.5	14.3	9.5	9.5	4.8	-14.3	0.0	0.0	33.3	9.5	23.8	76.2		
			Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2		
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1		
		Rio Vista	10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6			
			10	Lower 25%	19.0	28.6	19.0	33.3	9.5	-14.3	4.8	4.8	47.6	9.5	47.6	71.4			
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	75			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Feather River Confluence		60	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0		
			63	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	3.1	2.1	0.0	0.0	0.0	0.0	-1.3	
			65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.3	0.0	0.0	0.0	0.2		
	Freeport		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.7	0.0	-3.8		
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-3.8	-6.9	-3.8	-2.9		
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.5	0.0		

**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2					0.0	0.0	6.1
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0					0.0	0.0	23.8
			Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2					0.0	0.0	2.4
				10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9					0.0	0.0	9.5
			Verona	10	All Years	15.9	29.3	0.0	-2.4	-1.2	-35.4					52.4	23.2	59.8
				10	Lower 25%	9.5	14.3	9.5	9.5	4.8	-14.3					9.5	23.8	76.2
		Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7					1.2	8.5	23.2	
			10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3					4.8	33.3	57.1	
		Rio Vista	10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0					22.0	20.7	36.6	
			10	Lower 25%	19.0	28.6	19.0	33.3	9.5	-14.3					9.5	47.6	71.4	
	Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	-2.9	-7.6	0.1	0.0	0.0	0.0					0.0	-11.6	-3.9	
			56	All Years	-4.4	-0.2	0.0	0.0	0.0	0.0					0.0	-1.9	-2.3	-4.3
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	
		52	All Years	-0.2	-6.2	0.0	0.0	0.0	0.0	3.0					0.0	0.0	0.0	
		56	All Years	-5.7	0.0	0.0	0.0	0.0	0.0	0.0					0.4	0.5	1.4	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	
		52	All Years	0.0	2.5	0.0	0.0	0.4	0.0						0.0	0.0	0.0	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.1					0.0	0.0	0.0	
		56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1				0.0	0.0	0.0	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-6.9	-3.8	-2.9	
Feather River Confluence	52	All Years	0.0	1.9	0.0	0.0	-0.4	5.0					0.0	0.0	0.0			
	56	All Years	0.0	0.3	0.0	0.0	0.0	3.1					0.0	0.0	0.0			
Freeport	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-3.4	5.0	-6.3			
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0										
Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			52.4	43.9	48.8	-12.2	-45.1	-25.6					
				10	Lower 25%			0.0	23.8	38.1	0.0	14.3	0.0					
	Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years			0.1	0.0	0.0	0.0	2.0	-0.7						
			54	All Years			0.0	0.0	0.0	0.0	0.0	-0.1						
		57	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1	
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8	
			Bend Bridge	10	All Years	1.2	-2.4	45.1	40.2	34.1	-4.9	-43.9	-8.5	0.0	0.0	0.0	0.0	3.7
				10	Lower 25%	0.0	-9.5	28.6	81.0	61.9	0.0	-52.4	-28.6	0.0	0.0	0.0	0.0	14.3
		Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0	0.0	0.0	2.4	
			10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0	0.0	0.0	9.5	
		Monthly mean water temperatures (°F)	Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Ball's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Jelly's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Bend Bridge	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0				
				10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0				
			Verona	10	All Years	15.9	29.3	0.0	-2.4	-1.2	-35.4	-2.4	-1.2	14.6				
				10	Lower 25%	9.5	14.3	9.5	9.5	4.8	-14.3	0.0	0.0	33.3				
			Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2				
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8				
		Rio Vista	10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6					
			10	Lower 25%	19.0	28.6	19.0	33.3	9.5	-14.3	4.8	4.8	47.6					
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	52	All Years	-0.2	-6.2	0.0	0.0	0.0	0.0	3.0	4.8	0.0	0.0			
				55	All Years	-8.4	0.0	0.0	0.0	0.0	0.0	6.5	9.7	1.1				
	59			All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	2.9					
	Feather River Confluence		52	All Years	0.0	2.5	0.0	0.0	0.4	0.0	0.0	0.0	0.0					
			55	All Years	0.0	0.6	0.0	0.0	0.0	3.1	0.0	0.0	0.0					
			59	All Years	-0.8	0.0	0.0	0.0	0.0	-0.1	0.8	0.0	0.0					
Freeport	52		All Years	0.0	1.9	0.0	0.0	-0.4	5.0	0.0	0.0	0.0						
	55		All Years	0.0	-0.6	0.0	0.0	0.0	1.3	0.2	0.0	0.0						
59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0								

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4		48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1	
				10	Lower 25%	19.0	-4.8	0.0		38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8	
			10	All Years	46.3	46.3	7.3		-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3		
		Below Delevan Intake	10	Lower 25%	14.3	33.3	57.1		9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0		
			10	All Years	40.2	56.1	1.2		2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6		
			10	Lower 25%	19.0	28.6	19.0		9.5	-14.3	4.8	4.8	47.6	9.5	47.6	71.4		
	Rio Vista	10	All Years	40.2	56.1	1.2		2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6			
		10	Lower 25%	19.0	28.6	19.0		9.5	-14.3	4.8	4.8	47.6	9.5	47.6	71.4			
		10	All Years	40.2	56.1	1.2		2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6			
	Monthly mean water temperatures (°F)	Below Keswick Dam	61	All Years	-2.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-1.9	
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	
		Below Delevan Intake	61	All Years	-0.6	0.0	0.0		0.0	0.0	3.2	3.3	-0.3	0.0	0.0	0.0	-2.1	
66			All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-0.8	-4.4	3.5	-4.3			
Freeport		61	All Years	0.0	0.0	0.0		0.0	0.0	3.8	0.1	0.0	0.0	0.0	0.0	0.0		
		66	All Years	-0.1	0.0	0.0		0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0	0.0		
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-45.1	-25.6	-3.7	0.0	0.0		
				10	Lower 25%						0.0	14.3	0.0	0.0	0.0	0.0		
		Below Red Bluff Diversion Dam	10	All Years							-73.2	-62.2	-19.5	0.0	0.0	0.0		
			10	Lower 25%							-61.9	-81.0	-23.8	0.0	0.0	0.0		
	Wilkins Slough	10	All Years							-54.9	-11.0	-8.5	46.3	90.2	30.5			
		10	Lower 25%							-42.9	0.0	0.0	57.1	71.4	33.3			
	Monthly mean water temperatures (°F)	Below Keswick Dam	68	All Years							0.0	0.0	0.0	0.0	0.0	0.0		
			68	All Years							0.0	0.0	0.0	0.0	0.0	0.0		
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0	0.0	2.4	
				10	Lower 25%	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0	0.0	9.5	
			10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3		
		Below Delevan Intake	10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0		
			10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6		
		Rio Vista	10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6		
	10		Lower 25%	19.0	28.6	19.0	33.3	9.5	-14.3	4.8	4.8	47.6	9.5	47.6	71.4			
	Monthly mean water temperatures (°F)	Below RBDD	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-1.5	
			66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-4.4	3.5	-4.3	
		Freeport	66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0	
66			All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0		

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years		-4.9	-8.5	-24.4	-30.5	-86.6	-78.0	-46.3					
					10	Lower 25%		-14.3	9.5	28.6	0.0	-76.2	-81.0	-71.4					
			Below the Delevan Intake		10	All Years		46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8					
					10	Lower 25%		33.3	57.1	38.1	9.5	-42.9	0.0	0.0					
		Rio Vista		10	All Years		56.1	1.2	8.5	2.4	-39.0	1.2	1.2						
				10	Lower 25%		28.6	19.0	33.3	9.5	-14.3	4.8	4.8						
		Monthly mean water temperatures (°F)				77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
						77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years					-30.5	-86.6	-78.0	-46.3					
					10	Lower 25%					0.0	-76.2	-81.0	-71.4					
			Below the Delevan Intake		10	All Years					-7.3	-69.5	-15.9	-9.8					
					10	Lower 25%					9.5	-42.9	0.0	0.0					
		Verona		10	All Years					-1.2	-35.4	-2.4	-1.2						
				10	Lower 25%					4.8	-14.3	0.0	0.0						
		Monthly mean water temperatures (°F)				61	All Years					0.0	0.0	3.7					
						61	All Years					0.0	0.0	3.2	3.3				
				61	All Years					0.0	0.0	1.9	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3	
					10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0	
			Wilkins Slough		10	All Years	46.3	46.3	11.0	-8.5	-4.9	-54.9	-11.0	-8.5	46.3	90.2	30.5	79.3	
					10	Lower 25%	14.3	28.6	57.1	33.3	14.3	-42.9	0.0	0.0	57.1	71.4	33.3	100.0	
		Freeport		10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2		
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1		
		Monthly mean water temperatures (°F)				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-4.4	3.5	-4.3
						66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	-1.9	-0.5	-0.4	-4.4
				66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0		

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				43.9	48.8	-12.2	-45.1	-25.6	-3.7					
				10	Lower 25%				23.8	38.1	0.0	14.3	0.0	0.0					
			Below the Delevan Intake	10	All Years				-14.6	-7.3	-69.5	-15.9	-9.8	35.4					
				10	Lower 25%				38.1	9.5	-42.9	0.0	0.0	52.4					
Freeport	10	All Years				8.5	2.4	-31.7	0.0	0.0	1.2								
	10	Lower 25%				33.3	9.5	-14.3	0.0	0.0	4.8								
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0			
				10	Lower 25%				23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years				-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0	0.0	0.0		
				10	Lower 25%				14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0	0.0			
		Below the Delevan Intake	10	All Years				-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0				
			10	Lower 25%				38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6				
Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years				0.0	0.0	0.8	7.3	1.8	-1.0	-0.3	1.3					
		50-64	All Years				0.0	0.0	3.6	-0.1	0.0	0.0	0.0	2.6					
Below the Delevan Intake	50-64	All Years				0.0	-0.1	1.5	0.1	-2.3	2.9	3.0	-5.5						
	50-64	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1		
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	23.8			
			Below the Delevan Intake	10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3		
				10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0		
		Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2			
			10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Below the Delevan Intake	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-5.0	-3.1	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7				6.1		
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0				23.8		
			Below the Delevan Intake	10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4					79.3	
				10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4					100.0	
			Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2						23.2
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8						57.1
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					48.8	-12.2	-45.1	-25.6	-3.7	0.0					
				10	Lower 25%					38.1	0.0	14.3	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	10	All Years					-20.7	-73.2	-62.2	-19.5	0.0	0.0					
				10	Lower 25%					-4.8	-61.9	-81.0	-23.8	0.0	0.0					
		Below the Delevan Intake	10	All Years					-7.3	-69.5	-15.9	-9.8	35.4	87.8						
			10	Lower 25%					9.5	-42.9	0.0	0.0	52.4	61.9						
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years					0.0	0.8	7.3	1.8	-1.0	-0.3					
				50-64	All Years					0.0	3.6	-0.1	0.0	0.0	0.0					
Below the Delevan Intake	50-64		All Years					-0.1	1.5	0.1	-2.3	2.9	3.0							
	50-64		All Years																	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	0.0	6.1		
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	0.0	23.8		
			Below the Delevan Intake	10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3			
				10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0			
			Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2			
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-5.0	-3.1	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1		
					10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8		
			Below the Delevan Intake		10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3		
					10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0		
		Freeport		10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2			
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1			
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	-5.2	-3.3	6.5	-5.2	
	Freeport	65-82		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	0.0	0.0	0.0	-0.7			
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years								-45.1	-25.6	-3.7				
					10	Lower 25%									14.3	0.0	0.0			
			Below the Delevan Intake		10	All Years										-15.9	-9.8	35.4		
					10	Lower 25%										0.0	0.0	52.4		
		Freeport		10	All Years										0.0	0.0	1.2			
				10	Lower 25%										0.0	0.0	4.8			
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years									0.0	0.0	0.0			
				59-64		All Years									8.0	-0.2	2.9			
	Freeport	59-64		All Years									-0.1	-2.5	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	0.0	6.1
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	0.0	23.8
			Below the Delevan Intake	10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3	
				10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0	
		Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2		
			10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1		
		Monthly mean water temperatures (°F)	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-45.1	-25.6	-3.7				
				10	Lower 25%						0.0	14.3	0.0	0.0				
			Below the Delevan Intake	10	All Years						-69.5	-15.9	-9.8	35.4				
				10	Lower 25%						-42.9	0.0	0.0	52.4				
		Freeport	10	All Years						-31.7	0.0	0.0	1.2					
			10	Lower 25%						-14.3	0.0	0.0	4.8					
		Monthly mean water temperatures (°F)	60	All Years							0.0	0.0	0.0	0.0				
			60	All Years							0.0	10.7	-0.8	0.0				
	60	All Years							0.0	1.0	0.0	0.0						

Splittail in the Sacramento River																			
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years						0.4	0.0	0.0	0.0				
			Freeport	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years									-15.9	-9.8	35.4				
					10	Lower 25%								0.0	0.0	52.4					
			Verona		10	All Years										-2.4	-1.2	14.6			
					10	Lower 25%										0.0	0.0	33.3			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years									8.0	2.1	0.0				
			Below the Feather River Confluence	59-68		All Years									0.8	-1.3	0.6				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3			
					10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0			
			Verona		10	All Years	15.9	29.3	0.0	-2.4	-1.2	-35.4	-2.4	-1.2	14.6	52.4	23.2	59.8			
					10	Lower 25%	9.5	14.3	9.5	9.5	4.8	-14.3	0.0	0.0	33.3	9.5	23.8	76.2			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.3	-0.3	0.0	1.6	-2.1		
			Below the Feather River Confluence	61-71		All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-0.9	2.5	11.3	-1.2	0.8		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1	
				10	Lower 25%	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8	
			Below the Delevan Intake	10	All Years	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3	
				10	Lower 25%	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0	
			Freeport	10	All Years	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2	
				10	Lower 25%	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1	
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>	All Years						0.0	0.0	0.0	0.0				
			Below the Delevan Intake	59-75	All Years						0.0	8.0	2.1	0.0				
			Freeport	59-75	All Years						0.0	0.5	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to No Action Alternative Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative									
			Description		Value	%		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0			
					10	Lower 25%	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam		10	All Years	17.1	-31.7	-32.9	-73.2	-59.8	-19.5	-1.2	0.0			
					10	Lower 25%	14.3	-4.8	-4.8	-61.9	-57.1	-33.3	0.0	0.0			
			Verona		10	All Years	4.9	-1.2	2.4	-31.7	0.0	0.0	1.2	25.6			
					10	Lower 25%	23.8	9.5	14.3	-4.8	0.0	0.0	0.0	14.3			
			Freeport		10	All Years	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7			
					10	Lower 25%	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3			
			Rio Vista		10	All Years	7.3	2.4	4.9	-35.4	-2.4	0.0	6.1	23.2			
					10	Lower 25%	28.6	9.5	19.0	-4.8	0.0	0.0	19.0	23.8			
			Monthly mean water temperatures (°F)	Below Keswick Dam	60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		68				All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Below RBDD		60		All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.3	-1.4		
				64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Feather River		60		All Years	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0			
				64		All Years	0.0	0.0	0.0	0.0	3.1	0.6	0.0	0.0			
				68		All Years	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.7			
		Freeport		60		All Years	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0			
				64		All Years	0.0	0.0	0.0	0.0	0.6	1.3	0.0	0.0			
				68		All Years	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0			
		Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years					-43.9	-28.0	-3.7	0.0	0.0
							10	Lower 25%					0.0	0.0	0.0	0.0	0.0
Bend Bridge					10	All Years					-29.3	-13.4	-1.2	0.0	0.0		
				10	Lower 25%					-19.0	-38.1	0.0	0.0	0.0			
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge				1	All Years					36.6	47.6	41.5	26.8	34.1		
Monthly mean water temperatures (°F)	Below Keswick Dam			56		All Years					0.0	0.4	0.0	-2.8	-1.4		
				58		All Years					0.0	0.0	0.0	-0.9	-1.9		
				60		All Years					0.0	0.0	0.0	0.0	-2.3		
				62		All Years					0.0	0.0	0.0	0.0	-2.5		
	Ball's Ferry			56		All Years					0.0	-0.3	0.5	-1.9	-0.2		
				58		All Years					0.0	0.0	0.0	-0.2	-2.5		
				60		All Years					0.0	0.0	0.0	-0.6	-2.1		
				62		All Years					0.0	0.0	0.0	0.0	-2.4		
	Jelly's Ferry			56		All Years					0.9	-6.1	0.9	0.9	-7.8		
				58		All Years					0.0	-1.0	-0.2	-0.6	-5.0		
				60		All Years					0.0	0.0	0.0	0.1	-2.0		
				62		All Years					0.0	0.0	0.0	0.0	-2.4		
	Bend Bridge			56		All Years					0.9	4.0	-4.4	-3.1	-2.6		
				58		All Years					0.0	-1.3	0.3	-1.1	-0.3		
				60		All Years					0.0	0.0	0.0	-1.1	-3.3		
				62		All Years					0.0	0.0	0.0	-0.3	-2.4		

Juvenile Rearing and Emigration	July through April	Monthly mean Flow (cfs)	Below of Keswick Dam	10	All Years	54.9	41.5	46.3	-12.2	-43.9			0.0	0.0	13.4	
				10	Lower 25%	4.8	23.8	38.1	0.0	0.0			0.0	0.0	57.1	
			Below Red Bluff Diversion Dam	10	All Years	17.1	-31.7	-32.9	-73.2	-59.8			0.0	0.0	7.3	
				10	Lower 25%	14.3	-4.8	-4.8	-61.9	-57.1			0.0	0.0	33.3	
			Verona	10	All Years	4.9	-1.2	2.4	-31.7	0.0			25.6	19.5	56.1	
				10	Lower 25%	23.8	9.5	14.3	-4.8	0.0			14.3	47.6	81.0	
		Freeport	10	All Years	1.2	-1.2	0.0	-28.0	0.0			3.7	14.6	35.4		
			10	Lower 25%	9.5	0.0	4.8	-9.5	0.0			14.3	52.4	71.4		
		Rio Vista	10	All Years	7.3	2.4	4.9	-35.4	-2.4			23.2	20.7	48.8		
			10	Lower 25%	28.6	9.5	19.0	-4.8	0.0			23.8	61.9	71.4		
		July through April	Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.3	-1.1
					63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.2	-0.6
					65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-3.0
					68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
	70				All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0			-1.4	-3.6	-4.8	
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-2.4	-1.3	
				65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.6	-3.5	
				68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Feather River			60	All Years	0.0	0.0	0.0	0.0	2.5			0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	3.1			0.0	0.0	-0.7	
			65	All Years	0.0	0.0	0.0	0.0	2.2			0.0	0.0	1.1		
			68	All Years	0.0	0.0	0.0	0.0	0.0			-1.7	0.0	-4.6		
			70	All Years	0.0	0.0	0.0	0.0	0.0			-5.8	-3.8	-5.4		
	75		All Years	0.0	0.0	0.0	0.0	0.0			0.6	-1.7	0.0			
Freeport	60		All Years	0.0	0.0	0.0	0.0	1.2			0.0	0.0	0.0			
	63		All Years	0.0	0.0	0.0	0.0	3.8			0.0	0.0	0.0			
	65		All Years	0.0	0.0	0.0	0.0	-0.1			0.0	0.0	-1.3			
	68		All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-5.0			
	70		All Years	0.0	0.0	0.0	0.0	0.0			-4.1	1.9	-8.1			
75	All Years		0.0	0.0	0.0	0.0	0.0			-0.3	0.0	0.0				

**Spring-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	February through September	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	13.4			
				10	Lower 25%					38.1	0.0	0.0	0.0	0.0	0.0	0.0	57.1			
			Below Red Bluff Diversion Dam	10	All Years					-32.9	-73.2	-59.8	-19.5	-1.2	0.0	0.0	0.0	7.3		
				10	Lower 25%					-4.8	-61.9	-57.1	-33.3	0.0	0.0	0.0	33.3			
			Verona	10	All Years					2.4	-31.7	0.0	0.0	1.2	25.6	19.5	56.1			
				10	Lower 25%					14.3	-4.8	0.0	0.0	0.0	14.3	47.6	81.0			
			Freeport	10	All Years					0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4			
				10	Lower 25%					4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4			
			Rio Vista	10	All Years					4.9	-35.4	-2.4	0.0	6.1	23.2	20.7	48.8			
				10	Lower 25%					19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4			
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-1.1
					64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-4.0
		68			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		60			All Years					0.0	0.0	0.0	0.0	-1.5	-0.3	-1.4	-3.6	-4.8		
		64			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-2.4	
		68			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Feather River Confluence		60	All Years					0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				64	All Years					0.0	0.0	3.1	0.6	0.0	0.0	0.0	0.0	0.0	-1.3	
	68			All Years					0.0	0.0	0.0	1.3	-0.6	-1.7	0.0	0.0	-4.6			
	Freeport	60		All Years					0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0		
		64		All Years					0.0	0.0	0.6	1.3	0.0	0.0	0.0	0.0	0.0	-1.9		
		68		All Years					0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	-5.0		
	Spawning, egg incubation, and initial rearing	September through February	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	48.3							13.4		
					10	Lower 25%	42.9	14.3	4.8	23.8	38.1							57.1		
Bend Bridge				10	All Years	2.4	2.4	51.2	36.6	19.5							3.7			
				10	Lower 25%	0.0	0.0	38.1	76.2	57.1							23.8			
Below Red Bluff Diversion Dam				10	All Years	1.2	1.2	17.1	-31.7	-32.9							7.3			
				10	Lower 25%	0.0	-4.8	14.3	-4.8	-4.8							33.3			
Below Keswick Dam			56	All Years	-7.2	0.1	0.0	0.0	0.0							-4.4				
			58	All Years	-2.0	0.0	0.0	0.0	0.0							-0.1				
			60	All Years	-0.5	0.0	0.0	0.0	0.0							-1.1				
			62	All Years	0.0	0.0	0.0	0.0	0.0							-1.5				
			56	All Years	-5.9	0.0	0.0	0.0	0.0							-11.0				
			58	All Years	-3.2	0.0	0.0	0.0	0.0							-4.8				
Ball's Ferry		60	All Years	-1.3	0.0	0.0	0.0	0.0							-2.1					
		62	All Years	0.0	0.0	0.0	0.0	0.0							-1.1					
		56	All Years	-7.3	0.0	0.0	0.0	0.0							-1.9					
Jelly's Ferry		58	All Years	-4.1	0.0	0.0	0.0	0.0							-5.9					
		60	All Years	-1.2	0.0	0.0	0.0	0.0							-1.3					
		62	All Years	0.0	0.0	0.0	0.0	0.0							-1.0					
Bend Bridge		56	All Years	-6.4	0.0	0.0	0.0	0.0							-2.2					
		58	All Years	-4.5	0.0	0.0	0.0	0.0							-7.7					
		60	All Years	-1.6	0.0	0.0	0.0	0.0							-3.7					
Red Bluff Diversion Dam		62	All Years	0.0	0.0	0.0	0.0	0.0							-1.3					
		56	All Years	-6.5	0.0	0.0	0.0	0.0							-1.2					
		58	All Years	-3.9	0.0	0.0	0.0	0.0							-3.6					
	60	All Years	-1.2	0.0	0.0	0.0	0.0							-4.8						
			62	All Years	0.0	0.0	0.0	0.0	0.0					-1.1						



**Fall-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding	July through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9									0.0	0.0	13.4			
				10	Lower 25%	42.9	14.3	4.8										0.0	0.0	57.1		
			Below Red Bluff Diversion Dam	10	All Years	1.2	1.2	17.1											0.0	0.0	7.3	
				10	Lower 25%	0.0	-4.8	14.3											0.0	0.0	33.3	
			Verona	10	All Years	28.0	45.1	4.9											25.6	19.5	56.1	
				10	Lower 25%	4.8	33.3	23.8											14.3	47.6	81.0	
			Freeport	10	All Years	17.1	30.5	1.2											3.7	14.6	35.4	
				10	Lower 25%	9.5	19.0	9.5											14.3	52.4	71.4	
			Rio Vista	10	All Years	56.1	52.4	7.3											23.2	20.7	48.8	
				10	Lower 25%	19.0	33.3	28.6											23.8	61.9	71.4	
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-0.5	0.0	0.0											0.0	-2.3	-1.1
					64	All Years	0.0	0.0	0.0											0.0	-1.6	-4.0
		Below Red Bluff Diversion Dam		60	All Years	-1.2	0.0	0.0											0.0	0.0	0.0	
				64	All Years	0.0	0.0	0.0											0.0	-2.5	-2.4	
		Feather River Confluence		60	All Years	-3.8	0.0	0.0											0.0	0.0	0.0	
				64	All Years	-0.8	0.0	0.0											0.0	0.0	-1.3	
		Freeport		60	All Years	-3.8	0.0	0.0											0.0	0.0	0.0	
				64	All Years	0.9	0.0	0.0											0.0	0.0	-1.9	
		Freeport		60	All Years	0.0	0.0	0.0											0.0	0.0	-5.0	
				68	All Years	0.0	0.0	0.0											0.0	0.0	-5.0	
		Spawning, egg incubation, and initial rearing		October through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2								
							10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0								
			Bend Bridge			10	All Years	2.4	2.4	51.2	36.6	19.5	-6.1									
					10	Lower 25%	0.0	0.0	38.1	76.2	57.1	0.0										
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Red Bluff Inundation Zone				1	All Years	11.0	-49.3	-83.6	-31.5												
Monthly mean water temperatures (°F)	Below Keswick Dam		56		All Years	-7.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0									
			58		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			60		All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			Ball's Ferry		56	All Years	-5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
					58	All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
	Jelly's Ferry		56		All Years	-7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			58		All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	Bend Bridge		56		All Years	-6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			58		All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	Bend Bridge		60		All Years	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			62		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	December through June		Monthly mean Flow (cfs)		Below Red Bluff Diversion Dam	10	All Years			17.1	-31.7	-32.9	-73.2	-59.8	-19.5	-1.2						
						10	Lower 25%			14.3	-4.8	-4.8	-61.9	-57.1	-33.3	0.0						
					Verona	10	All Years			4.9	-1.2	2.4	-31.7	0.0	0.0	1.2						
						10	Lower 25%			23.8	9.5	14.3	-4.8	0.0	0.0	0.0						
					Freeport	10	All Years			1.2	-1.2	0.0	-28.0	0.0	0.0	1.2						
						10	Lower 25%			9.5	0.0	4.8	-9.5	0.0	0.0	4.8						
					Rio Vista	10	All Years			7.3	2.4	4.9	-35.4	-2.4	0.0	6.1						
		10		Lower 25%				28.6	9.5	19.0	-4.8	0.0	0.0	19.0								
		Monthly mean water temperatures (°F)		Below Red Bluff Diversion Dam	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.3						
					63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			65		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			68		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			70		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			75		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			Feather River Confluence	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0						
				63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.3	0.0						
				65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.3	0.0						
				68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6						
			Freeport	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0						
				63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	3.8	1.3	0.0						
				65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0						
				70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0						
		Freeport	68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-4.2							
			75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							

Late Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	October through April	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9								
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0								
			Below Red Bluff Diversion Dam	10	All Years	1.2	1.2	17.1	-31.7	-32.9	-73.2	-59.8								
				10	Lower 25%	0.0	-4.8	14.3	-4.8	-4.8	-61.9	-57.1								
			Verona	10	All Years	28.0	45.1	4.9	-1.2	2.4	-31.7	0.0								
				10	Lower 25%	4.8	33.3	23.8	9.5	14.3	-4.8	0.0								
		Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0									
			10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0									
		Rio Vista	10	All Years	56.1	52.4	7.3	2.4	4.9	-35.4	-2.4									
			10	Lower 25%	19.0	33.3	28.6	9.5	19.0	-4.8	0.0									
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	60			All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	64			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	68			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	Below Red Bluff Diversion Dam		60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5							
			64	All Years	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2							
			64	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6							
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
	Feather River Confluence	60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
		64	All Years	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
60		All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
64		All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6									
68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Freeport	60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	64	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
	64	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Spawning, egg incubation, and initial rearing	January through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				41.5	46.3	-12.2	-43.9	-28.0							
				10	Lower 25%				23.8	38.1	0.0	0.0	0.0							
			Bend Bridge	10	All Years				36.6	19.5	-6.1	-29.3	-13.4							
				10	Lower 25%				76.2	57.1	0.0	-19.0	-38.1							
		Monthly mean water temperatures (°F)	Below Keswick Dam	56	All Years				0.0	0.0	0.0	0.0	0.0	0.4						
				58	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
				60	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
				62	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
				56	All Years				0.0	0.0	0.0	0.0	0.0	0.0	-0.3					
				58	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Ball's Ferry	60	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
				62	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
	56			All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.9	-6.1					
	58			All Years				0.0	0.0	0.0	0.0	0.0	0.0	-1.0						
	60			All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	62			All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	Jelly's Ferry	56	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.9	-6.1						
		58	All Years				0.0	0.0	0.0	0.0	0.0	0.0	-1.0							
		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0							
		62	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0							
		56	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.0						
		58	All Years				0.0	0.0	0.0	0.0	0.0	0.0	-1.3							
	Bend Bridge	60	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0							
		62	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0							
56		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.0							
58		All Years				0.0	0.0	0.0	0.0	0.0	0.0	-1.3								
60		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0								
62		All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0								
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	1.2	1.2	17.1	-31.7	-32.9	-73.2	-59.8	-19.5	-1.2	0.0	0.0	7.3			
				10	Lower 25%	0.0	-4.8	14.3	-4.8	-4.8	-61.9	-57.1	-33.3	0.0	0.0	33.3				
			Verona	10	All Years	28.0	45.1	4.9	-1.2	2.4	-31.7	0.0	0.0	1.2	25.6	19.5	56.1			
				10	Lower 25%	4.8	33.3	23.8	9.5	14.3	-4.8	0.0	0.0	0.0	14.3	47.6	81.0			
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4			
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4			
			Rio Vista	10	All Years	56.1	52.4	7.3	2.4	4.9	-35.4	-2.4	0.0	6.1	23.2	20.7	48.8			
				10	Lower 25%	19.0	33.3	28.6	9.5	19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4			
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.3	-1.4	-3.6	-4.8		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.4	-1.3		
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-3.5		
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	75			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Feather River Confluence		60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0			
			63	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.3	0.0	0.0	-0.7			
			65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.3	0.0	0.0	1.1			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.7	0.0	-4.6			
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-2.5	-5.8	-3.8	-5.4			
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-1.7	0.0			
	Freeport	60	All Years	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0				
		63	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	1.3	0.0	0.0	0.0				
		65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	-1.3				
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	-5.0				
70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-4.2	-4.1	1.9	-8.1				
75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0				



**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9		46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	13.4	
				10	Lower 25%	42.9	14.3	4.8		38.1	0.0	0.0	0.0	0.0	0.0	57.1		
			10	All Years	47.6	62.2	19.5		-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7		
		Below Delevan Intake	10	Lower 25%	14.3	33.3	81.0		4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0		
			10	All Years	56.1	52.4	7.3		4.9	-35.4	-2.4	0.0	6.1	23.2	20.7	48.8		
			10	Lower 25%	19.0	33.3	28.6		19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4		
	Rio Vista	10	All Years	19.0	33.3	28.6		19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4			
		10	Lower 25%	19.0	33.3	28.6		19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4			
		10	All Years	19.0	33.3	28.6		19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4			
	Monthly mean water temperatures (°F)	Below Keswick Dam	61	All Years	-2.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-1.3	
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7		
		Below Delevan Intake	61	All Years	-0.3	0.0	0.0		0.0	0.0	2.8	1.9	-0.4	0.0	0.0	2.2		
66			All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-0.1	-3.3	3.1	-4.9			
Freeport		61	All Years	-1.9	0.0	0.0		0.0	0.0	3.8	0.1	0.0	0.0	0.0	0.0			
		66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3			
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-43.9	-28.0	-3.7	0.0	0.0		
				10	Lower 25%						0.0	0.0	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years							-73.2	-59.8	-19.5	-1.2	0.0	0.0	
				10	Lower 25%							-61.9	-57.1	-33.3	0.0	0.0		
	Wilkins Slough	10	All Years							-56.1	-13.4	-11.0	50.0	97.6	42.7			
		10	Lower 25%							-47.6	0.0	0.0	85.7	100.0	71.4			
	Monthly mean water temperatures (°F)	Below Keswick Dam	68	All Years							0.0	0.0	0.0	0.0	0.0	0.0		
			68	All Years							0.0	0.0	0.0	0.0	0.0			
Below Red Bluff Diversion Dam		68	All Years							0.0	0.0	0.0	0.0	0.0	0.0			
		68	All Years							0.0	0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	1.2	1.2	17.1	-31.7	-32.9	-73.2	-59.8	-19.5	-1.2	0.0	0.0	7.3	
				10	Lower 25%	0.0	-4.8	14.3	-4.8	-4.8	-61.9	-57.1	-33.3	0.0	0.0	33.3		
			10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7		
		Below Delevan Intake	10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0		
			10	All Years	56.1	52.4	7.3	2.4	4.9	-35.4	-2.4	0.0	6.1	23.2	20.7	48.8		
			10	Lower 25%	19.0	33.3	28.6	9.5	19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4		
	Monthly mean water temperatures (°F)	Below RBDD	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-0.5	
			66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.3	3.1	-4.9	
		Freeport	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3	
			66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3	

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years		0.0	4.9	-31.7	-36.6	-82.9	-79.3	-40.2					
					10	Lower 25%		0.0	28.6	4.8	0.0	-61.9	-85.7	-66.7					
			Below the Delevan Intake		10	All Years		62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8					
					10	Lower 25%		33.3	81.0	28.6	4.8	-42.9	0.0	0.0					
		Rio Vista		10	All Years		52.4	7.3	2.4	4.9	-35.4	-2.4	0.0						
				10	Lower 25%		33.3	28.6	9.5	19.0	-4.8	0.0	0.0						
		Monthly mean water temperatures (°F)		Hamilton City		77	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
		Below the Delevan Intake		77	All Years		0.0	0.0	0.0	0.0	0.0	0.0							
		Freeport		77	All Years		0.0	0.0	0.0	0.0	0.0	0.0							
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years					-36.6	-82.9	-79.3	-40.2					
					10	Lower 25%					0.0	-61.9	-85.7	-66.7					
			Below the Delevan Intake		10	All Years					-18.3	-69.5	-19.5	-9.8					
					10	Lower 25%					4.8	-42.9	0.0	0.0					
		Verona		10	All Years					2.4	-31.7	0.0	0.0						
				10	Lower 25%					14.3	-4.8	0.0	0.0						
		Monthly mean water temperatures (°F)		Hamilton City		61	All Years					0.0	0.0	3.2					
		Below the Delevan Intake		61	All Years					0.0	0.0	2.8	1.9						
		Below the Feather River Confluence		61	All Years					0.0	0.0	1.9	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7	
					10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0	
			Wilkins Slough		10	All Years	50.0	67.1	22.0	-8.5	-11.0	-56.1	-13.4	-11.0	50.0	97.6	42.7	72.0	
					10	Lower 25%	19.0	47.6	81.0	33.3	9.5	-47.6	0.0	0.0	85.7	100.0	71.4	100.0	
		Freeport		10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4		
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4		
		Monthly mean water temperatures (°F)		Below the Delevan Intake		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.3	3.1	-4.9
		Knights Landing		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.7	-0.5	-0.4	-1.9		
		Freeport		66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3		

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				41.5	46.3	-12.2	-43.9	-28.0	-3.7					
				10	Lower 25%				23.8	38.1	0.0	0.0	0.0	0.0					
			Below the Delevan Intake	10	All Years				-20.7	-18.3	-69.5	-19.5	-9.8	20.7					
				10	Lower 25%				28.6	4.8	-42.9	0.0	0.0	61.9					
Freeport	10	All Years				-1.2	0.0	-28.0	0.0	0.0	1.2								
	10	Lower 25%				0.0	4.8	-9.5	0.0	0.0	4.8								
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0			
				10	Lower 25%				23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years				-31.7	-32.9	-73.2	-59.8	-19.5	-1.2	0.0	0.0			
				10	Lower 25%				-4.8	-4.8	-61.9	-57.1	-33.3	0.0	0.0	0.0			
		Below the Delevan Intake	10	All Years				-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6				
			10	Lower 25%				28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1				
Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years				0.0	0.0	0.8	8.1	1.5	-0.1	0.0	0.0	1.6				
		50-64	All Years				0.0	0.0	3.6	-0.2	0.0	0.0	0.0	0.0	2.5				
		50-64	All Years				0.0	-0.2	1.8	0.1	-2.2	1.7	2.0	-4.7					
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	13.4		
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0	57.1		
			Below the Delevan Intake	10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7		
				10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0		
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4		
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4		
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-4.4	-6.3	-0.1	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7				13.4		
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0					57.1	
			Below the Delevan Intake	10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7						70.7
				10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9						100.0
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2						35.4
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8						71.4
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					46.3	-12.2	-43.9	-28.0	-3.7	0.0					
				10	Lower 25%					38.1	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	10	All Years					-32.9	-73.2	-59.8	-19.5	-1.2	0.0					
				10	Lower 25%					-4.8	-61.9	-57.1	-33.3	0.0	0.0					
			Below the Delevan Intake	10	All Years					-18.3	-69.5	-19.5	-9.8	20.7	93.9					
				10	Lower 25%					4.8	-42.9	0.0	0.0	61.9	85.7					
	Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years					0.0	0.8	8.1	1.5	-0.1	0.0						
			Below Red Bluff Diversion Dam	50-64	All Years					0.0	3.6	-0.2	0.0	0.0	0.0					
Below the Delevan Intake	50-64	All Years						-0.2	1.8	0.1	-2.2	1.7	2.0							
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	0.0	13.4		
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1		
			Below the Delevan Intake	10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7			
				10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0			
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4			
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4			
	Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-4.4	-6.3	-0.1			
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	13.4	
					10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1
			Below the Delevan Intake		10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7	
					10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0	
		Freeport		10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4		
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4		
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.0
				65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	-7.8	-3.3	3.2	-3.2
	Freeport	65-82		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	0.0	-1.3		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years								-43.9	-28.0	-3.7			
					10	Lower 25%									0.0	0.0	0.0		
			Below the Delevan Intake		10	All Years									-19.5	-9.8	20.7		
					10	Lower 25%									0.0	0.0	61.9		
		Freeport		10	All Years									0.0	0.0	1.2			
				10	Lower 25%									0.0	0.0	4.8			
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years								0.0	0.0	0.0			
				59-64		All Years								7.4	0.5	1.7			
	Freeport	59-64		All Years								-0.4	-1.3	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	0.0	13.4		
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	
			Below the Delevan Intake	10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7			
				10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0			
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4			
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4			
		Monthly mean water temperatures (°F)	Below Keswick Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Freeport	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-43.9	-28.0	-3.7						
				10	Lower 25%						0.0	0.0	0.0	0.0						
			Below the Delevan Intake	10	All Years								-69.5	-19.5	-9.8	20.7				
				10	Lower 25%								-42.9	0.0	0.0	61.9				
			Freeport	10	All Years								-28.0	0.0	0.0	1.2				
				10	Lower 25%								-9.5	0.0	0.0	4.8				
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years							0.0	0.0	0.0	0.0					
			Below the Delevan Intake	60	All Years							0.0	9.5	0.2	0.0					
Freeport	60		All Years							0.0	1.2	0.0	0.0							

Splittail in the Sacramento River			Location		Criteria		Range		Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative									
Life Stage	Evaluation Period	Impact Indicator	Description	Value	%	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Spawning	February through May	Monthly mean water temperatures (°F)		Below the Delevan Intake	45-75 <sup>1</sup>		All Years					0.3	0.0	0.0	0.0
Freeport	45-75					All Years						0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years									-19.5	-9.8	20.7			
					10	Lower 25%								0.0	0.0	61.9				
			Verona		10	All Years								0.0	0.0	1.2				
					10	Lower 25%								0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years								7.4	2.7	0.0				
			Below the Feather River Confluence	59-68		All Years								0.8	-1.3	0.6				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7		
					10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0		
			Verona		10	All Years	28.0	45.1	4.9	-1.2	2.4	-31.7	0.0	0.0	1.2	25.6	19.5	56.1		
					10	Lower 25%	4.8	33.3	23.8	9.5	14.3	-4.8	0.0	0.0	0.0	14.3	47.6	81.0		
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	2.8	1.9	-0.4	0.0	1.6	2.2		
			Below the Feather River Confluence	61-71		All Years	-5.0	0.0	0.0	0.0	0.0	0.0	1.9	-1.0	1.3	10.0	1.2	1.4		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	13.4	24.4	54.9	41.5	46.3	-12.2	-43.9	-28.0	-3.7	0.0	0.0	13.4	
				10	Lower 25%	42.9	14.3	4.8	23.8	38.1	0.0	0.0	0.0	0.0	0.0	0.0	57.1	
			Below the Delevan Intake	10	All Years	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7	
				10	Lower 25%	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0	
			Freeport	10	All Years	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4	
				10	Lower 25%	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4	
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>	All Years						0.0	0.0	0.0	0.0				
			Below the Delevan Intake	59-75	All Years						0.0	7.4	2.7	0.0				
			Freeport	59-75	All Years						0.0	0.3	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to Existing Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description		Value	%		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0				
					10	Lower 25%	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0				
			Below Red Bluff Diversion Dam		10	All Years	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0				
					10	Lower 25%	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0				
			Verona		10	All Years	2.4	-24.4	-15.9	-40.2	-2.4	-1.2	24.4	61.0				
					10	Lower 25%	28.6	9.5	9.5	-14.3	0.0	0.0	47.6	19.0				
			Freeport		10	All Years	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2				
					10	Lower 25%	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8				
			Rio Vista		10	All Years	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8	45.1				
					10	Lower 25%	28.6	33.3	14.3	-14.3	4.8	0.0	28.6	23.8				
			Monthly mean water temperatures (°F)	Below Keswick Dam		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
						64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Below RBDD				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5	-0.6		
						64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
						68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Feather River Confluence			60	All Years	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0				
					64	All Years	0.0	0.0	0.0	0.0	0.6	0.4	0.0	0.0				
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-2.1				
		Freeport			60	All Years	0.0	0.0	0.0	-0.1	0.6	0.0	0.0	0.0				
					64	All Years	0.0	0.0	0.0	0.0	0.8	1.3	0.0	0.0				
					68	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.4	0.0				
		Spawning, egg incubation, and initial rearing	April through August	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years						-32.9	-1.2	-14.6	0.0	0.0
							10	Lower 25%						4.8	4.8	0.0	0.0	
Bend Bridge					10	All Years						-18.3	-2.4	-1.2	0.0	0.0		
					10	Lower 25%						-42.9	-9.5	0.0	0.0	0.0		
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge					1	All Years					41.5	54.9	30.5	8.5	7.3		
Monthly mean water temperatures (°F)	Below Keswick Dam				56	All Years					0.0	0.0	0.0	-3.1	-4.6			
					58	All Years					0.0	0.0	0.0	-0.5	-2.0			
					60	All Years					0.0	0.0	0.0	0.0	-3.4			
					62	All Years					0.0	0.0	0.0	0.0	-3.5			
				Ball's Ferry		56	All Years					0.0	-1.2	0.3	-1.4	-1.6		
						58	All Years					0.0	0.0	-0.1	-2.0	-4.8		
					60	All Years					0.0	0.0	0.0	-0.3	-2.2			
					62	All Years					0.0	0.0	0.0	0.0	-3.5			
	Jelly's Ferry				56	All Years					1.4	-5.5	1.0	-2.2	-5.0			
					58	All Years					0.0	-1.6	-0.2	-1.1	-4.9			
					60	All Years					0.0	0.0	0.0	0.1	-3.0			
					62	All Years					0.0	0.0	0.0	0.0	-3.5			
	Bend Bridge				56	All Years					1.2	3.0	0.4	0.0	-0.6			
					58	All Years					0.0	-2.0	-2.4	-2.3	-1.5			
					60	All Years					0.0	0.0	0.0	-2.5	-4.5			
					62	All Years					0.0	0.0	0.0	-0.1	-3.5			

Juvenile Rearing and Emigration	July through April	Monthly mean Flow (cfs)	Below of Keswick Dam	10	All Years	53.7	41.5	47.6	-12.2	-32.9			0.0	0.0	-2.4	
				10	Lower 25%	4.8	9.5	38.1	0.0	0.0			0.0	0.0	0.0	
			Below Red Bluff Diversion Dam	10	All Years	12.2	-28.0	-20.7	-63.4	-37.8			0.0	0.0	-4.9	
				10	Lower 25%	4.8	4.8	-4.8	-57.1	-57.1			0.0	0.0	0.0	
			Verona	10	All Years	2.4	-24.4	-15.9	-40.2	-2.4			61.0	40.2	59.8	
				10	Lower 25%	28.6	9.5	9.5	-14.3	0.0			19.0	42.9	76.2	
		Freeport	10	All Years	-2.4	-12.2	-3.7	-36.6	0.0			1.2	17.1	47.6		
			10	Lower 25%	9.5	28.6	14.3	-19.0	0.0			4.8	66.7	61.9		
		Rio Vista	10	All Years	-4.9	-13.4	-7.3	-40.2	1.2			45.1	34.1	54.9		
			10	Lower 25%	28.6	33.3	14.3	-14.3	4.8			23.8	76.2	66.7		
		Monthly mean water temperatures (°F)	July through April	Below Keswick Dam	60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.4	-2.7
					63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.6	-2.9
					65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-2.8
					68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
	70				All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Below RBDD			60	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-2.8	-6.1	
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.2	-3.5	-2.7	
				65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.5	-2.9	
				68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
	75			All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
	Feather River Confluence			60	All Years	0.0	0.0	0.0	0.0	2.7			0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	3.1			0.0	0.0	-1.3	
			65	All Years	0.0	0.0	0.0	0.0	2.2			0.0	0.0	0.4		
			68	All Years	0.0	0.0	0.0	0.0	0.0			-2.1	0.0	-2.5		
			70	All Years	0.0	0.0	0.0	0.0	0.0			-4.4	-6.3	-2.5		
	75		All Years	0.0	0.0	0.0	0.0	0.0			-1.0	-2.7	0.0			
Freeport	60		All Years	0.0	0.0	0.0	-0.1	0.6			0.0	0.0	0.0			
	63		All Years	0.0	0.0	0.0	0.0	1.3			0.0	0.0	0.2			
	65		All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-0.8			
	68		All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-5.0			
	70		All Years	0.0	0.0	0.0	0.0	0.0			-4.7	3.1	-7.1			
75	All Years		0.0	0.0	0.0	0.0	0.0			-0.4	0.0	0.0				



Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4			
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	
			Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-2.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	-2.9
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below RBDD	60	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5	-0.6	-2.8	-6.1	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-3.5	-2.7	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-2.9	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0						
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0						
			Verona	10	All Years	17.1	36.6	2.4	-24.4	-15.9	-40.2	-2.4	-1.2	24.4						
				10	Lower 25%	14.3	28.6	28.6	9.5	9.5	-14.3	0.0	0.0	47.6						
			Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0						
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0						
			Rio Vista	10	All Years	45.1	62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8						
				10	Lower 25%	19.0	42.9	28.6	33.3	14.3	-14.3	4.8	0.0	28.6						
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5					
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Feather River Confluence	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0					
63	All Years			0.4	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0								
65	All Years			0.5	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0								
68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9								
70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-2.5							
Freeport	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	0.0	0.0								
	63	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	1.3	2.5	0.0									
	65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0									
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.4									
	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.6									
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										





**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2					0.0	0.0	-2.4
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0					0.0	0.0	0.0
			Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4					0.0	0.0	-4.9
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1					0.0	0.0	0.0
			Verona	10	All Years	17.1	36.6	2.4	-24.4	-15.9	-40.2					61.0	40.2	59.8
				10	Lower 25%	14.3	28.6	28.6	9.5	9.5	-14.3					19.0	42.9	76.2
		Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6					1.2	17.1	47.6	
			10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0					4.8	66.7	61.9	
		Rio Vista	10	All Years	45.1	62.2	-4.9	-13.4	-7.3	-40.2					45.1	34.1	54.9	
			10	Lower 25%	19.0	42.9	28.6	33.3	14.3	-14.3					23.8	76.2	66.7	
	Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	-5.1	-8.3	0.0	0.0	0.0	0.0					0.5	-9.6	-5.2	
			56	All Years	-4.7	0.1	0.0	0.0	0.0	0.0					-3.1	-4.6	-4.2	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0		
		Below Red Bluff Diversion Dam	52	All Years	-1.3	-6.7	0.0	0.0	0.0	1.8					0.0	0.0	0.0	
			56	All Years	-4.4	0.0	0.0	0.0	0.0	0.0					0.4	0.5	-0.6	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0		
		Feather River Confluence	52	All Years	0.0	1.3	0.0	0.0	0.8	1.3					0.0	0.0	0.0	
			56	All Years	0.0	0.3	0.0	0.0	0.0	0.8					0.0	0.0	0.0	
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-4.4	-6.3	-2.5		
		Freeport	52	All Years	0.0	0.0	0.0	0.0	1.3	3.8					0.0	0.0	0.0	
56	All Years		0.0	0.3	0.0	0.0	0.0	3.1					0.0	0.0	0.0			
70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-4.7	3.1	-7.1				
Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			53.7	41.5	47.6	-12.2	-32.9	-1.2					
				10	Lower 25%			4.8	9.5	38.1	0.0	4.8						
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years			0.0	0.0	0.0	0.0	2.1	-1.3					
	54			All Years			0.0	0.0	0.0	0.0	0.0	-0.5						
	57			All Years			0.0	0.0	0.0	0.0	0.0	0.0						
	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0								
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4	
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	4.8	4.8	0.0	0.0	0.0		
			Bend Bridge	10	All Years	0.0	-4.9	43.9	37.8	31.7	-3.7	-18.3	-2.4	-1.2	0.0	0.0	0.0	
				10	Lower 25%	-9.5	-23.8	23.8	81.0	52.4	0.0	-42.9	-9.5	0.0	0.0	0.0		
			Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0	0.0		
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Ball's Ferry		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	Jelly's Ferry	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	Bend Bridge	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Below Red Bluff Diversion Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0				
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0				
			Verona	10	All Years	17.1	36.6	2.4	-24.4	-15.9	-40.2	-2.4	-1.2	24.4				
				10	Lower 25%	14.3	28.6	28.6	9.5	9.5	-14.3	0.0	0.0	47.6				
		Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0					
			10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0					
		Rio Vista	10	All Years	45.1	62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8					
			10	Lower 25%	19.0	42.9	28.6	33.3	14.3	-14.3	4.8	0.0	28.6					
	Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	52	All Years	-1.3	-6.7	0.0	0.0	0.0	1.8	4.8	0.0	0.0					
			55	All Years	-7.9	0.0	0.0	0.0	0.0	0.0	6.4	9.1	1.0					
		59	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.4						
		Feather River Confluence	52	All Years	0.0	1.3	0.0	0.0	0.8	1.3	0.0	0.0	0.0					
			55	All Years	0.0	0.6	0.0	0.0	0.0	4.4	0.0	0.0	0.0					
		59	All Years	-0.8	0.0	0.0	0.0	0.0	-0.1	0.6	0.0	0.0						
Freeport	52	All Years	0.0	0.0	0.0	0.0	1.3	3.8	0.0	0.0	0.0							
	55	All Years	0.0	0.6	0.0	0.0	0.0	3.8	0.2	0.0	0.0							
59	All Years	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0								

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7		47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4	
				10	Lower 25%	0.0	-4.8	4.8		38.1	0.0	4.8	4.8	0.0	0.0	0.0	0.0	
				10	All Years	58.5	54.9	8.5		-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
			10	Lower 25%	38.1	42.9	85.7		0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0		
			10	All Years	45.1	62.2	-4.9		-7.3	-40.2	1.2	-2.4	9.8	45.1	34.1	54.9		
			10	Lower 25%	19.0	42.9	28.6		14.3	-14.3	4.8	0.0	28.6	23.8	76.2	66.7		
		Monthly mean water temperatures (°F)	Below Keswick Dam	61	All Years	-1.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-2.5	
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1		
			61	All Years	-0.6	0.0	0.0		0.0	0.0	3.2	3.9	-0.4	0.0	0.0	-4.2		
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-2.7	-7.0	0.3	-2.4			
			61	All Years	-1.3	0.0	0.0		0.0	0.0	2.5	0.1	0.0	0.0	0.0			
			66	All Years	-0.3	0.0	0.0		0.0	0.0	0.0	2.5	-0.2	0.0	0.0			
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-32.9	-1.2	-14.6	0.0	0.0		
				10	Lower 25%						0.0	0.0	4.8	4.8	0.0	0.0		
				10	All Years							-63.4	-37.8	0.0	0.0	0.0		
			10	Lower 25%							-57.1	-57.1	0.0	0.0	0.0			
			10	All Years							-56.1	-7.3	1.2	30.5	91.5	87.8		
			10	Lower 25%							-52.4	0.0	0.0	52.4	76.2	57.1		
	Monthly mean water temperatures (°F)	Below Keswick Dam	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0			
		68	All Years						0.0	0.0	0.0	0.0	0.0	0.0				
		68	All Years							0.0	0.0	0.0	0.0	0.0				
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0	0.0	-4.9	
				10	Lower 25%	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0	0.0		
				10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
			10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0		
			10	All Years	45.1	62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8	45.1	34.1	54.9		
			10	Lower 25%	19.0	42.9	28.6	33.3	14.3	-14.3	4.8	0.0	28.6	23.8	76.2	66.7		
			Monthly mean water temperatures (°F)	Below RBDD	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-2.0
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-7.0	0.3	-2.4
				66	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years		-6.1	-6.1	-23.2	-30.5	-68.3	-43.9	-13.4					
					10	Lower 25%		-28.6	14.3	28.6	0.0	-66.7	-81.0	-33.3					
			Below the Delevan Intake		10	All Years		54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4					
					10	Lower 25%		42.9	85.7	28.6	0.0	-47.6	0.0	0.0					
		Rio Vista		10	All Years		62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4						
				10	Lower 25%		42.9	28.6	33.3	14.3	-14.3	4.8	0.0						
		Monthly mean water temperatures (°F)																	
					Hamilton City	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Delevan Intake	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0						
			Freeport	77		All Years		0.0	0.0	0.0	0.0	0.0	0.0						
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City		10	All Years						-30.5	-68.3	-43.9	-13.4				
					10	Lower 25%						0.0	-66.7	-81.0	-33.3				
			Below the Delevan Intake		10	All Years						-40.2	-63.4	-8.5	-2.4				
					10	Lower 25%						0.0	-47.6	0.0	0.0				
		Verona		10	All Years						-15.9	-40.2	-2.4	-1.2					
				10	Lower 25%						9.5	-14.3	0.0	0.0					
		Monthly mean water temperatures (°F)																	
					Hamilton City	61		All Years						0.0	0.0	1.5			
			Below the Delevan Intake	61		All Years					0.0	0.0	3.2	3.9					
			Below the Feather River Confluence	61		All Years					0.0	0.0	1.9	0.0					
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
					10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0	
			Wilkins Slough		10	All Years	62.2	56.1	15.9	-29.3	-25.6	-56.1	-7.3	1.2	30.5	91.5	87.8	75.6	
					10	Lower 25%	38.1	42.9	81.0	9.5	4.8	-52.4	0.0	0.0	52.4	76.2	57.1	100.0	
		Freeport		10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6		
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9		
		Monthly mean water temperatures (°F)																	
					Below the Delevan Intake	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-7.0	0.3	-2.4
			Knights Landing	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-3.9	-1.3	-0.8	-6.0		
			Freeport	66		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	0.0		

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				41.5	47.6	-12.2	-32.9	-1.2	-14.6					
				10	Lower 25%				9.5	38.1	0.0	0.0	4.8	4.8					
			Below the Delevan Intake	10	All Years				-39.0	-40.2	-63.4	-8.5	-2.4	12.2					
				10	Lower 25%				28.6	0.0	-47.6	0.0	0.0	33.3					
			Freeport	10	All Years				-12.2	-3.7	-36.6	0.0	-1.2	0.0					
				10	Lower 25%				28.6	14.3	-19.0	0.0	0.0	0.0					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years				41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0			
				10	Lower 25%				9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0			
			Below Red Bluff Diversion Dam	10	All Years				-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%				4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	10	All Years				-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5			
				10	Lower 25%				28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3			
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>		All Years			0.0	0.0	0.7	6.1	1.1	2.9	-0.5	1.7			
			Below Red Bluff Diversion Dam	50-64		All Years			0.0	0.0	3.7	-0.1	0.0	0.0	0.0	3.5			
			Below the Delevan Intake	50-64		All Years			0.0	0.0	0.4	0.0	0.5	12.0	10.8	-2.6			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4		
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	0.0		
			Below the Delevan Intake	10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0		
				10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0		
			Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6		
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9		
	Monthly mean water temperatures (°F)	Below Keswick Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Below the Delevan Intake	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Freeport	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-7.5	-4.4	0.0		
			72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6				-2.4		
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	0.0	4.8	4.8				0.0		
			Below the Delevan Intake	10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2					78.0	
				10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3					100.0	
			Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0						47.6
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0						61.9
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					47.6	-12.2	-32.9	-1.2	-14.6	0.0					
				10	Lower 25%					38.1	0.0	0.0	4.8	4.8	0.0					
			Below Red Bluff Diversion Dam	10	All Years					-20.7	-63.4	-37.8	0.0	0.0	0.0					
				10	Lower 25%					-4.8	-57.1	-57.1	0.0	0.0	0.0					
		Below the Delevan Intake	10	All Years					-40.2	-63.4	-8.5	-2.4	12.2	89.0						
			10	Lower 25%					0.0	-47.6	0.0	0.0	33.3	66.7						
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years							0.0	0.7	6.1	1.1	2.9	-0.5			
				Below Red Bluff Diversion Dam	50-64	All Years						0.0	3.7	-0.1	0.0	0.0	0.0			
Below the Delevan Intake	50-64		All Years							0.0	0.4	0.0	0.5	12.0	10.8					
	50-64		All Years																	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0		-2.4		
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0				
			Below the Delevan Intake	10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0			
				10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0			
			Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6			
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9			
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-7.5	-4.4	0.0		
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4	
					10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	4.8	4.8	0.0	0.0	0.0		
			Below the Delevan Intake		10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
					10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0	
		Freeport		10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6		
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9		
			Monthly mean water temperatures (°F)	Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	
					65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	-8.5	-9.5	-0.7	-7.2
Freeport		65-82		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	-0.8			
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years								-32.9	-1.2	-14.6			
					10	Lower 25%								0.0	4.8	4.8			
			Below the Delevan Intake		10	All Years									-8.5	-2.4	12.2		
					10	Lower 25%									0.0	0.0	33.3		
		Freeport		10	All Years									0.0	-1.2	0.0			
				10	Lower 25%									0.0	0.0	0.0			
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years									0.0	0.0	0.0		
				59-64		All Years									6.8	0.8	12.0		
Freeport	59-64			All Years									-0.5	-1.3	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4	
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	4.8	4.8	0.0	0.0			
			Below the Delevan Intake	10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
				10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0	
		Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6		
			10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9		
		Monthly mean water temperatures (°F)	Below Keswick Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Delevan Intake	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Freeport	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-12.2	-32.9	-1.2	-14.6				
				10	Lower 25%						0.0	0.0	4.8	4.8				
			Below the Delevan Intake	10	All Years							-63.4	-8.5	-2.4	12.2			
				10	Lower 25%							-47.6	0.0	0.0	33.3			
		Freeport	10	All Years							-36.6	0.0	-1.2	0.0				
			10	Lower 25%							-19.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years							0.0	0.0	0.0	0.0			
			Below the Delevan Intake	60	All Years							0.0	9.6	-1.8	0.0			
Freeport	60		All Years							-0.1	0.6	0.0	0.0					

Splittail in the Sacramento River																			
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years						0.2	0.0	0.0	0.0				
			Freeport	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years									-8.5	-2.4	12.2				
					10	Lower 25%								0.0	0.0	33.3					
			Verona		10	All Years										-2.4	-1.2	24.4			
					10	Lower 25%										0.0	0.0	47.6			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years										6.8	0.3	0.0			
				Below the Feather River Confluence	59-68		All Years									0.6	0.0	1.9			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0			
					10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0			
			Verona		10	All Years	17.1	36.6	2.4	-24.4	-15.9	-40.2	-2.4	-1.2	24.4	61.0	40.2	59.8			
					10	Lower 25%	14.3	28.6	28.6	9.5	9.5	-14.3	0.0	0.0	47.6	19.0	42.9	76.2			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.9	-0.4	0.0	1.6	-4.2		
				Below the Feather River Confluence	61-71		All Years	-3.8	0.0	0.0	0.0	0.0	0.0	1.9	-1.3	2.5	16.9	6.3	1.6		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4	
				10	Lower 25%	0.0	-4.8	4.8	9.5	38.1	0.0	4.8	4.8	0.0	0.0			
			Below the Delevan Intake	10	All Years	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0	
				10	Lower 25%	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0	
			Freeport	10	All Years	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6	
				10	Lower 25%	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9	
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>	All Years						0.0	0.0	0.0	0.0				
			Below the Delevan Intake	59-75	All Years						0.0	6.8	0.3	0.0				
			Freeport	59-75	All Years						0.1	0.3	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to No Action Alternative Condition Sacramento River**

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**Winter-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative									
			Description		Value	%		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	December through July	Monthly mean flow (cfs)	Below Keswick Dam		10	All Years	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0			
					10	Lower 25%	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0			
			Below Red Bluff Diversion Dam		10	All Years	18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4	0.0			
					10	Lower 25%	23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0	0.0			
			Verona		10	All Years	6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5	46.3			
					10	Lower 25%	42.9	14.3	14.3	-9.5	0.0	0.0	4.8	28.6			
			Freeport		10	All Years	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9			
					10	Lower 25%	19.0	0.0	19.0	0.0	0.0	0.0	0.0	19.0			
			Rio Vista		10	All Years	-1.2	-22.0	-7.3	-34.1	0.0	0.0	3.7	30.5			
					10	Lower 25%	33.3	9.5	19.0	0.0	0.0	0.0	9.5	52.4			
		Monthly mean water temperatures (°F)	Below Keswick Dam		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
					64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below RBDD		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.7	-2.0		
					64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Feather River Confluence		60	All Years	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0			
					64	All Years	0.0	0.0	0.0	0.0	1.9	0.6	0.0	0.0			
					68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-2.1			
			Freeport		60	All Years	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0			
					64	All Years	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0			
					68	All Years	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0			
			Monthly mean flow (cfs)	Below Keswick Dam		10	All Years						-28.0	-1.2	-17.1	0.0	0.0
						10	Lower 25%						0.0	4.8	4.8	0.0	0.0
Bend Bridge		10			All Years						-8.5	-3.7	-2.4	0.0	0.0		
		10		Lower 25%						-28.6	-14.3	0.0	0.0	0.0			
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Bend Bridge			1	All Years						18.3	50.0	51.2	43.9	30.5		
Monthly mean water temperatures (°F)	Below Keswick Dam			56	All Years					0.0	0.0	0.0	-4.0	-3.7			
				58	All Years					0.0	0.0	0.0	-0.4	-2.6			
				60	All Years					0.0	0.0	0.0	0.0	-3.4			
				62	All Years					0.0	0.0	0.0	0.0	-3.3			
	Ball's Ferry			56	All Years					0.0	-1.7	0.5	-2.9	-0.7			
				58	All Years					0.0	0.0	-0.2	-3.9	-4.6			
				60	All Years					0.0	0.0	0.0	-0.3	-2.4			
				62	All Years					0.0	0.0	0.0	0.0	-3.4			
	Jelly's Ferry			56	All Years					1.4	-6.3	0.7	2.3	-6.8			
				58	All Years					0.0	-1.1	-0.4	-1.2	-5.9			
			60	All Years					0.0	0.0	0.0	-0.1	-3.0				
			62	All Years					0.0	0.0	0.0	0.0	-3.5				
Bend Bridge		56	All Years					1.1	4.0	-2.0	-1.2	-4.4					
		58	All Years					0.0	-2.2	-1.4	-2.8	-1.2					
		60	All Years					0.0	0.0	0.0	-0.7	-4.5					
		62	All Years					0.0	0.0	0.0	-0.3	-3.5					



**Spring-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	February through September	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4			
				10	Lower 25%					38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3			
			Below Red Bluff Diversion Dam	10	All Years					-29.3	-63.4	-25.6	0.0	-2.4	0.0	0.0	0.0	-6.1		
				10	Lower 25%					-4.8	-52.4	-47.6	0.0	0.0	0.0	0.0	0.0			
			Verona	10	All Years					-13.4	-34.1	-1.2	-1.2	8.5	46.3	39.0	57.3			
				10	Lower 25%					14.3	-9.5	0.0	0.0	4.8	28.6	52.4	76.2			
			Freeport	10	All Years					-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0			
				10	Lower 25%					19.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7			
			Rio Vista	10	All Years					-7.3	-34.1	0.0	0.0	3.7	30.5	35.4	52.4			
				10	Lower 25%					19.0	0.0	0.0	0.0	9.5	52.4	81.0	66.7			
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-1.7
					64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-1.4
		68			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		60			All Years					0.0	0.0	0.0	0.0	-1.5	-0.7	-2.0	-5.1	-4.7		
		64			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-3.2		
		68			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Feather River Confluence		60	All Years					0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0		
				64	All Years					0.0	0.0	1.9	0.6	0.0	0.0	0.0	0.0	-1.4		
	68			All Years					0.0	0.0	0.0	0.0	-1.9	-2.1	0.0	-3.3				
	Freeport	60		All Years					0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0			
		64		All Years					0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	-1.8			
		68		All Years					0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	-7.5			
	Spawning, egg incubation, and initial rearing	September through February	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6							-2.4		
					10	Lower 25%	4.8	0.0	9.5	9.5	38.1						14.3			
Bend Bridge				10	All Years	-1.2	-3.7	51.2	35.4	17.1							-6.1			
				10	Lower 25%	-14.3	-19.0	38.1	76.2	47.6							0.0			
Below Red Bluff Diversion Dam				10	All Years	-2.4	0.0	18.3	-31.7	-29.3							-6.1			
				10	Lower 25%	-14.3	-19.0	23.8	-4.8	-4.8							0.0			
Below Keswick Dam			56	All Years	-7.5	0.4	0.0	0.0	0.0							-4.3				
			58	All Years	-3.3	0.0	0.0	0.0	0.0							-2.2				
			60	All Years	-1.3	0.0	0.0	0.0	0.0							-1.7				
			62	All Years	0.1	0.0	0.0	0.0	0.0							-3.0				
			56	All Years	-4.2	0.0	0.0	0.0	0.0							-13.2				
			58	All Years	-3.1	0.0	0.0	0.0	0.0							-5.4				
Ball's Ferry		60	All Years	-2.4	0.0	0.0	0.0	0.0							-2.7					
		62	All Years	0.0	0.0	0.0	0.0	0.0							-2.7					
		56	All Years	-6.0	0.0	0.0	0.0	0.0							-0.2					
Jelly's Ferry		58	All Years	-3.5	0.0	0.0	0.0	0.0							-4.9					
		60	All Years	-2.4	0.0	0.0	0.0	0.0							-1.6					
		62	All Years	0.0	0.0	0.0	0.0	0.0							-2.8					
Bend Bridge		56	All Years	-6.7	0.0	0.0	0.0	0.0							0.8					
		58	All Years	-3.9	0.0	0.0	0.0	0.0							-9.3					
		60	All Years	-2.2	0.0	0.0	0.0	0.0							-4.5					
Red Bluff Diversion Dam		62	All Years	0.0	0.0	0.0	0.0	0.0							-3.2					
		56	All Years	-5.2	0.0	0.0	0.0	0.0							-3.2					
		58	All Years	-3.4	0.0	0.0	0.0	0.0							-4.1					
	60	All Years	-2.1	0.0	0.0	0.0	0.0							-4.7						
			62	All Years	0.0	0.0	0.0	0.0	0.0					-2.1						



**Fall-run Chinook Salmon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
																			All Years
Adult Immigration and Holding	July through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1								0.0	0.0	-2.4	
				10	Lower 25%	4.8	0.0	9.5							0.0	0.0	14.3		
			Below Red Bluff Diversion Dam	10	All Years	-2.4	0.0	18.3							0.0	0.0	-6.1		
				10	Lower 25%	-14.3	-19.0	23.8							0.0	0.0	0.0		
			Feather River	10	All Years	26.8	57.3	6.1							46.3	39.0	57.3		
				10	Lower 25%	14.3	47.6	42.9							28.6	52.4	76.2		
			Freeport	10	All Years	22.0	41.5	1.2							4.9	19.5	50.0		
				10	Lower 25%	9.5	23.8	19.0							19.0	71.4	66.7		
			Rio Vista	10	All Years	58.5	65.9	-1.2							30.5	35.4	52.4		
				10	Lower 25%	14.3	52.4	33.3							52.4	81.0	66.7		
			Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years	-1.3	0.0	0.0							0.0	-3.4	-1.7	
					64	All Years	0.0	0.0	0.0							0.0	-2.0	-1.4	
		68		All Years	0.0	0.0	0.0							0.0	0.0	0.0			
		Below Red Bluff Diversion Dam		60	All Years	-2.1	0.0	0.0							-2.0	-5.1	-4.7		
				64	All Years	0.0	0.0	0.0							0.0	-3.4	-3.2		
		68		All Years	0.0	0.0	0.0							0.0	0.0	0.0			
		Feather River		60	All Years	-2.5	0.0	0.0							0.0	0.0	0.0		
				64	All Years	-0.1	0.0	0.0							0.0	0.0	-1.4		
		68		All Years	0.0	0.0	0.0							-2.1	0.0	-3.3			
		Freeport		60	All Years	-6.3	0.0	0.0							0.0	0.0	0.0		
				64	All Years	-0.2	0.0	0.0							0.0	0.0	-1.8		
		68		All Years	0.0	0.0	0.0							0.0	0.0	-7.5			
		Spawning, egg incubation, and initial rearing	October through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4						
						10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0						
Bend Bridge	10				All Years	-1.2	-3.7	51.2	35.4	17.1	-3.7								
	10				Lower 25%	-14.3	-19.0	38.1	76.2	47.6	0.0								
Scaled composite weighted usable area (WUA) (% of Max)	Keswick Dam to Red Bluff Inundation Zone			1	All Years	27.4	-54.8	-83.6	-37.0										
Monthly mean water temperatures (°F)	Below Keswick Dam			56	All Years	-7.5	0.4	0.0	0.0	0.0	0.0	0.0							
				58	All Years	0.0	0.0	0.0	0.0	0.0	0.0								
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0								
				62	All Years	0.1	0.0	0.0	0.0	0.0	0.0								
	Ball's Ferry			56	All Years	-4.2	0.0	0.0	0.0	0.0	0.0								
				58	All Years	-3.1	0.0	0.0	0.0	0.0	0.0								
				60	All Years	-2.4	0.0	0.0	0.0	0.0	0.0								
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0								
	Jelly's Ferry			56	All Years	-6.0	0.0	0.0	0.0	0.0	0.0								
				58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0								
				60	All Years	-2.4	0.0	0.0	0.0	0.0	0.0								
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0								
Bend Bridge	56			All Years	-6.7	0.0	0.0	0.0	0.0	0.0									
	58			All Years	-3.9	0.0	0.0	0.0	0.0	0.0									
	60			All Years	-2.2	0.0	0.0	0.0	0.0	0.0									
	62			All Years	0.0	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	December through June			Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years			18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4			
						10	Lower 25%			23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0			
					Verona	10	All Years			6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5			
		10	Lower 25%					42.9	14.3	14.3	-9.5	0.0	0.0	4.8					
		Freeport	10		All Years			1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0					
			10		Lower 25%			19.0	0.0	19.0	0.0	0.0	0.0	0.0					
		Rio Vista	10		All Years			-1.2	-22.0	-7.3	-34.1	0.0	0.0	3.7					
			10		Lower 25%			33.3	9.5	19.0	0.0	0.0	0.0	9.5					
		Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.7				
				63	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Feather River	60	All Years			0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0				
				63	All Years			0.0	0.0	0.0	0.0	0.0	3.1	2.5	0.0				
				65	All Years			0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0				
				68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9				
				70	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.7	-1.3				
				75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Freeport	60	All Years			0.0	0.0	0.0	0.0	-0.1	0.8	0.0	0.0				
				63	All Years			0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0				
				65	All Years			0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0				
				68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0				
70	All Years				0.0	0.0	0.0	0.0	0.0	0.0	1.9	-2.3							



**Steelhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	July through March	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4					0.0	0.0	-2.4	
				10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0					0.0	0.0	14.3	
			Below Red Bluff Diversion Dam	10	All Years	-2.4	0.0	18.3	-31.7	-29.3	-63.4					0.0	0.0	-6.1	
				10	Lower 25%	-14.3	-19.0	23.8	-4.8	-4.8	-52.4					0.0	0.0	0.0	
			Verona	10	All Years	26.8	57.3	6.1	-23.2	-13.4	-34.1					46.3	39.0	57.3	
				10	Lower 25%	14.3	47.6	42.9	14.3	14.3	-9.5					28.6	52.4	76.2	
		Freeport	10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8					4.9	19.5	50.0		
			10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0					19.0	71.4	66.7		
		Rio Vista	10	All Years	58.5	65.9	-1.2	-22.0	-7.3	-34.1					30.5	35.4	52.4		
			10	Lower 25%	14.3	52.4	33.3	9.5	19.0	0.0					52.4	81.0	66.7		
		Monthly mean water temperatures (°F)	Below Keswick Dam	52	All Years	-5.4	-8.3	-0.7	0.0	0.0	0.0						2.4	-9.0	-5.2
				56	All Years	-7.5	0.4	0.0	0.0	0.0	0.0						-4.0	-3.7	-4.3
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	0.0	
	52			All Years	-1.2	-7.5	0.0	0.0	0.0	0.0	0.9					0.0	0.0	0.0	
	56			All Years	-5.2	0.0	0.0	0.0	0.0	0.0						0.2	1.0	-3.2	
	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	0.0	
	Feather River Confluence		52	All Years	0.0	1.3	0.0	0.0	0.7	1.3						0.0	0.0	0.0	
			56	All Years	0.0	0.0	0.0	0.0	0.0	1.3						0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-3.3	-6.3	-5.0	
			52	All Years	0.0	1.3	0.0	0.0	1.3	2.5						0.0	0.0	0.0	
			56	All Years	0.0	-0.2	0.0	0.0	0.0	1.3						0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-5.3	0.0	-9.0	
	Spawning and egg incubation	December through May	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years			56.1	37.8	47.6	-13.4	-28.0	-1.2					
					10	Lower 25%			9.5	9.5	38.1	0.0	0.0	4.8					
Monthly mean water temperatures (°F)			Below Keswick Dam	52	All Years			-0.7	0.0	0.0	0.0	2.2	-1.2						
		54		All Years			0.0	0.0	0.0	0.0	0.0	-0.5							
		57		All Years			0.0	0.0	0.0	0.0	0.0	0.0							
All Years		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0								
	Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4	
					10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3	
Bend Bridge				10	All Years	-1.2	-3.7	51.2	35.4	17.1	-3.7	-8.5	-3.7	-2.4	0.0	0.0	-6.1		
				10	Lower 25%	-14.3	-19.0	38.1	76.2	47.6	0.0	-28.6	-14.3	0.0	0.0	0.0	0.0		
Below Red Bluff Diversion Dam				10	All Years	-2.4	0.0	18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4	0.0	0.0	-6.1		
				10	Lower 25%	-14.3	-19.0	23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0	0.0	0.0	0.0		
Monthly mean water temperatures (°F)			Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-2.4
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.6
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Ball's Ferry	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-1.5	
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Jelly's Ferry		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-1.8		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Bend Bridge		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-2.7		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Below Red Bluff Diversion Dam		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Smolt Emigration	October through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-2.4	0.0	18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4			
						10	Lower 25%	-14.3	-19.0	23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0			
Verona	10				All Years	26.8	57.3	6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5					
	10				Lower 25%	14.3	47.6	42.9	14.3	14.3	-9.5	0.0	0.0	4.8					
Freeport	10				All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0					
	10				Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0					
Rio Vista	10			All Years	58.5	65.9	-1.2	-22.0	-7.3	-34.1	0.0	0.0	3.7						
	10			Lower 25%	14.3	52.4	33.3	9.5	19.0	0.0	0.0	0.0	9.5						
Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam			52	All Years	-1.2	-7.5	0.0	0.0	0.0	0.0	0.9	4.5	0.0	0.0				
				55	All Years	-11.5	0.0	0.0	0.0	0.0	0.0	0.0	7.4	7.0	2.0				
				59	All Years	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	0.4					
	Feather River Confluence			52	All Years	0.0	1.3	0.0	0.0	0.0	0.7	1.3	0.0	0.0	0.0				
			55	All Years	0.0	0.6	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0					
			59	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0					
Freeport	52		All Years	0.0	1.3	0.0	0.0	0.0	1.3	2.5	0.0	0.0	0.0						
	55		All Years	0.0	-1.3	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0						
	59		All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0						

**Green Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative									
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Adult Immigration and Holding	February through December	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1		47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4
				10	Lower 25%	4.8	0.0	9.5		38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3
			Below Delevan Intake	10	All Years	59.8	81.7	19.5		-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2
			10	Lower 25%	28.6	90.5	100.0		4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0	
		Rio Vista	10	All Years	58.5	65.9	-1.2		-7.3	-34.1	0.0	0.0	3.7	30.5	35.4	52.4	
			10	Lower 25%	14.3	52.4	33.3		19.0	0.0	0.0	0.0	9.5	52.4	81.0	66.7	
	Monthly mean water temperatures (°F)	Below Keswick Dam	61	All Years	-1.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-1.8
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1
		Below Delevan Intake	61	All Years	-0.2	0.0	0.0		0.0	0.0	2.8	2.5	-0.5	0.0	0.0	0.1	
			66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-2.0	-5.9	-0.1	-2.9	
		Freeport	61	All Years	-3.1	0.0	0.0		0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0	
			66	All Years	-0.2	0.0	0.0		0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3	
Spawning and Egg Incubation	March through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-13.4	-28.0	-1.2	-17.1	0.0	0.0	
				10	Lower 25%						0.0	0.0	4.8	4.8	0.0	0.0	
		Below Red Bluff Diversion Dam	10	All Years							-63.4	-25.6	0.0	-2.4	0.0	0.0	
			10	Lower 25%							-52.4	-47.6	0.0	0.0	0.0	0.0	
	Wilkins Slough	10	All Years							-56.1	-9.8	0.0	31.7	97.6	89.0		
		10	Lower 25%							-52.4	0.0	0.0	76.2	95.2	71.4		
Monthly mean water temperatures (°F)	Below Keswick Dam	68	All Years							0.0	0.0	0.0	0.0	0.0	0.0		
	Below Red Bluff Diversion Dam	68	All Years							0.0	0.0	0.0	0.0	0.0	0.0		
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam	10	All Years	-2.4	0.0	18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4	0.0	0.0	-6.1
				10	Lower 25%	-14.3	-19.0	23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0	0.0	0.0	
			Below Delevan Intake	10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2
			10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0	
		Rio Vista	10	All Years	58.5	65.9	-1.2	-22.0	-7.3	-34.1	0.0	0.0	3.7	30.5	35.4	52.4	
			10	Lower 25%	14.3	52.4	33.3	9.5	19.0	0.0	0.0	0.0	9.5	52.4	81.0	66.7	
	Monthly mean water temperatures (°F)	Below RBDD	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-0.9
		Below Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-5.9	-0.1	-2.9
	66	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3		

**White Sturgeon in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Hamilton City	10	All Years		0.0	6.1	-32.9	-34.1	-65.9	-32.9	-11.0							
				10	Lower 25%		-14.3	28.6	0.0	0.0	-57.1	-81.0	-33.3							
			Below the Delevan Intake	10	All Years		81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0							
				10	Lower 25%		90.5	100.0	14.3	4.8	-47.6	0.0	0.0							
			Rio Vista	10	All Years		65.9	-1.2	-22.0	-7.3	-34.1	0.0	0.0							
				10	Lower 25%		52.4	33.3	9.5	19.0	0.0	0.0	0.0							
		Monthly mean water temperatures (°F)	Hamilton City	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0								
			Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0								
		Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0										
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Hamilton City	10	All Years					-34.1	-65.9	-32.9	-11.0							
				10	Lower 25%		0.0	-57.1	-81.0	-33.3										
			Below the Delevan Intake	10	All Years					-40.2	-63.4	-9.8	0.0							
				10	Lower 25%					4.8	-47.6	0.0	0.0							
			Verona	10	All Years					-13.4	-34.1	-1.2	-1.2							
				10	Lower 25%					14.3	-9.5	0.0	0.0							
		Monthly mean water temperatures (°F)	Hamilton City	61	All Years		0.0	0.0	0.0	1.0										
			Below the Delevan Intake	61	All Years		0.0	0.0	0.0	2.8	2.5									
		Below the Feather River Confluence	61	All Years				0.0	0.0	1.9	0.0									
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake	10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2			
				10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0			
			Wilkins Slough	10	All Years	64.6	84.1	22.0	-30.5	-23.2	-56.1	-9.8	0.0	31.7	97.6	89.0	72.0			
				10	Lower 25%	38.1	95.2	100.0	4.8	14.3	-52.4	0.0	0.0	76.2	95.2	71.4	100.0			
			Freeport	10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0			
				10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7			
		Monthly mean water temperatures (°F)	Below the Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-5.9	-0.1	-2.9			
			Knights Landing	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-3.6	-1.3	-0.8	-3.4			
		Freeport	66	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.3					

**Pacific Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative																	
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep							
Adult Immigration	January through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						37.8	47.6	-13.4	-28.0	-1.2	-17.1									
				10	Lower 25%						9.5	38.1	0.0	0.0	4.8	4.8									
			Below the Delevan Intake	10	All Years								-45.1	-40.2	-63.4	-9.8	0.0	7.3							
				10	Lower 25%								14.3	4.8	-47.6	0.0	0.0	33.3							
Freeport	10	All Years									-22.0	-4.9	-26.8	0.0	0.0	0.0									
	10	Lower 25%									0.0	19.0	0.0	0.0	0.0	0.0									
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0							
				10	Lower 25%								9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0					
			Below Red Bluff Diversion Dam	10	All Years								-31.7	-29.3	-63.4	-25.6	0.0	-2.4	0.0	0.0					
				10	Lower 25%								-4.8	-4.8	-52.4	-47.6	0.0	0.0	0.0	0.0					
		Below the Delevan Intake	10	All Years									-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5					
			10	Lower 25%									14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6					
Monthly mean water temperatures (°F)	50-64 <sup>1</sup>	All Years	Below Keswick Dam	50-64							0.0	0.0	0.7	6.9	0.8	3.7	-0.1	2.0							
			Below Red Bluff Diversion Dam	50-64								0.0	0.0	3.6	-0.2	0.0	0.0	0.0	3.4						
			Below the Delevan Intake	50-64								0.0	-0.1	0.7	0.0	0.5	10.9	9.8	-1.8						
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4			
				10	Lower 25%								4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3	
			Below the Delevan Intake	10	All Years									59.8	61.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2
				10	Lower 25%									28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0
		Freeport	10	All Years									22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0	
			10	Lower 25%									9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7
		Monthly mean water temperatures (°F)	72	All Years	Below Keswick Dam	72							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
					Below the Delevan Intake	72								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Freeport	72												0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	72												0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-7.5	-0.1			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	September through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1				-2.4		
				10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8				14.3		
			Below the Delevan Intake	10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3						73.2
				10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3						100.0
			Freeport	10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0						50.0
				10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0						66.7
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years					47.6	-13.4	-28.0	-1.2	-17.1	0.0					
				10	Lower 25%					38.1	0.0	0.0	4.8	4.8	0.0					
			Below Red Bluff Diversion Dam	10	All Years						-29.3	-63.4	-25.6	0.0	-2.4	0.0				
				10	Lower 25%						-4.8	-52.4	-47.6	0.0	0.0	0.0				
		Below the Delevan Intake	10	All Years						-40.2	-63.4	-9.8	0.0	7.3	96.3					
			10	Lower 25%						4.8	-47.6	0.0	0.0	33.3	95.2					
		Monthly mean water temperatures (°F)	Below Keswick Dam	50-64 <sup>1</sup>	All Years						0.0	0.7	6.9	0.8	3.7	-0.1				
				50-64	All Years						0.0	3.6	-0.2	0.0	0.0	0.0				
Below the Delevan Intake	50-64		All Years						-0.1	0.7	0.0	0.5	10.9	9.8						
	50-64		All Years																	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0		-2.4		
				10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0		14.3		
			Below the Delevan Intake	10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2			
				10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0			
			Freeport	10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	0.0	4.9	19.5	50.0		
				10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7		
		Monthly mean water temperatures (°F)	Below Keswick Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Delevan Intake	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4	
					10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3	
			Below the Delevan Intake		10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2	
					10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0	
		Freeport		10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	0.0	4.9	19.5	50.0	
				10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7	
			Below Keswick Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-2.4
				Below the Delevan Intake	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-11.1	-9.5	-3.9	-5.3
Freeport		65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	0.0	-1.3			
Adult Spawning	April through June	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years								-28.0	-1.2	-17.1			
					10	Lower 25%								0.0	4.8	4.8			
			Below the Delevan Intake		10	All Years								-9.8	0.0	7.3			
					10	Lower 25%								0.0	0.0	33.3			
		Freeport		10	All Years								0.0	0.0	0.0				
				10	Lower 25%								0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	59-64		All Years								0.0	0.0	0.0			
			Below the Delevan Intake	59-64		All Years							6.2	1.5	10.9				
Freeport			59-64		All Years							-0.8	0.0	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4		
				10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3		
			Below the Delevan Intake	10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2		
				10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0		
		Freeport	10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	0.0	4.9	19.5	50.0		
			10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7		
		Monthly mean water temperatures (°F)	Below Keswick Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Delevan Intake	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Freeport	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Adult Spawning	March through June	Monthly mean Flow (cfs)	Below Keswick Dam	10	All Years						-13.4	-28.0	-1.2	-17.1					
				10	Lower 25%						0.0	0.0	4.8	4.8					
			Below the Delevan Intake	10	All Years								-63.4	-9.8	0.0	7.3			
				10	Lower 25%								-47.6	0.0	0.0	33.3			
		Freeport	10	All Years								-26.8	0.0	0.0	0.0				
			10	Lower 25%								0.0	0.0	0.0	0.0				
		Monthly mean water temperatures (°F)	Below Keswick Dam	60	All Years							0.0	0.0	0.0	0.0	0.0			
			Below the Delevan Intake	60	All Years							0.0	8.4	-0.8	0.0				
Freeport	60		All Years							-0.1	0.8	0.0	0.0						

Splittail in the Sacramento River																			
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean water temperatures (°F)	Below the Delevan Intake	45-75 <sup>1</sup>		All Years						0.2	0.0	0.0	0.0				
			Freeport	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years																
					10	Lower 25%								-9.8	0.0	7.3						
			Verona		10	All Years																
					10	Lower 25%																
		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68 <sup>1</sup>		All Years																
				59-68		All Years																
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2				
					10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0				
			Verona		10	All Years	26.8	57.3	6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5	46.3	39.0	57.3				
					10	Lower 25%	14.3	47.6	42.9	14.3	14.3	-9.5	0.0	0.0	4.8	28.6	52.4	76.2				
		Monthly mean water temperatures (°F)	Below the Delevan Intake	61-71		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.5	-0.5	0.0	1.6	0.1			
				61-71		All Years	-5.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-1.3	1.3	15.6	8.7	2.2			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below Red Bluff Diversion Dam		10	All Years																
					10	Lower 25%																
			Verona		10	All Years																
				10	Lower 25%																	
		Freeport		10	All Years																	
				10	Lower 25%																	
Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	60-70'			All Years																	
	Below the Feather River Confluence	60-70			All Years																	
	Freeport	60-70			All Years																	
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Delevan Intake		10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2				
					10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0				
			Verona		10	All Years	26.8	57.3	6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5	46.3	39.0	57.3				
					10	Lower 25%	14.3	47.6	42.9	14.3	14.3	-9.5	0.0	0.0	4.8	28.6	52.4	76.2				
			Freeport		10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0				
					10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7				
		Monthly mean water temperatures (°F)	Below the Delevan Intake	63-77			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	-4.8	-7.3	-1.0	5.1			
			Below the Feather River Confluence	63-77			All Years	0.4	0.0	0.0	0.0	0.0	0.0	3.1	2.5	0.0	0.0	0.0	-0.7			
			Freeport	63-77			All Years	-3.1	0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0	0.5	0.0	-0.2			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Sacramento River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below Keswick Dam		10	All Years	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4
					10	Lower 25%	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3
			Below the Delevan Intake		10	All Years	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2
					10	Lower 25%	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0
			Freeport		10	All Years	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0
					10	Lower 25%	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7
Spawning	March through June	Monthly mean water temperatures (°F)	Below Keswick Dam	59-75 <sup>1</sup>		All Years					0.0	0.0	0.0	0.0				
			Below the Delevan Intake	59-75		All Years					0.0	6.2	1.0	0.0				
			Freeport	59-75		All Years					0.0	0.1	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**No Action Alternative Compared to  
Existing Condition  
Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1						
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9						
			Mouth of the Lower Feather River	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9						
				10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	60	All Years	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3				
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Mouth of the Lower Feather River	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0				
				65	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8			

**Fall-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range		Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
			Description	Value	%	All Years	Lower 25%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Immigration and Holding	July through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0									0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0											0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2											-2.4	22.0	12.2	
				10	Lower 25%	0.0	0.0	-4.8												-9.5	42.9	23.8
			Mouth of the Lower Feather River	10	All Years	-2.4	0.0	4.9												-2.4	8.5	4.9
				10	Lower 25%	0.0	0.0	9.5												-9.5	14.3	4.8
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.9	0.0	0.0											0.9	0.0	-1.5	
				64	All Years	0.0	0.0	0.0											0.5	-0.4	0.0	
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0											0.0	0.0	0.0	
				60	All Years	3.8	0.0	0.0												0.0	0.0	-0.4
			Mouth of the Lower Feather River	64	All Years	-0.4	0.0	0.0												0.0	0.0	-5.0
				68	All Years	0.0	0.0	0.0												0.0	3.0	0.1
			Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.6	0.0	0.0												0.0	0.0	0.0
				64	All Years	0.7	0.0	0.0												0.0	0.0	0.0
			Mouth of the Lower Feather River	64	All Years	0.0	0.0	0.0												0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0												0.0	0.0	-5.0
			Adult Spawning	October through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0											
							10	Lower 25%	0.0	0.0	0.0											
Below the Thermalito Afterbay Outlet	10	All Years				-14.6	-8.5	1.2														
	10	Lower 25%				0.0	0.0	-4.8														
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	56			All Years	1.3	0.7	0.0														
		58			All Years	-0.5	-0.1	0.0														
		60			All Years	-0.9	0.0	0.0														
		62			All Years	-1.0	0.0	0.0														
	Below the Thermalito Afterbay Outlet	56			All Years	0.0	0.0	0.0														
		58			All Years	-2.5	-0.2	0.0														
		60			All Years	3.8	0.0	0.0														
		62			All Years	-0.3	0.0	0.0														
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek		1	All Years	54.9	19.5	-19.5															
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0											
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0											
			Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1											
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8											
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	56	All Years	1.3	0.7	0.0	0.0	0.0	0.0											
				58	All Years	-0.5	-0.1	0.0	0.0	0.0	0.0											
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0											
				62	All Years	-1.0	0.0	0.0	0.0	0.0	0.0											
			Below the Thermalito Afterbay Outlet	56	All Years	0.0	0.0	0.0	0.0	0.0	-0.2											
				58	All Years	-2.5	-0.2	0.0	0.0	0.0	0.0											
				60	All Years	3.8	0.0	0.0	0.0	0.0	0.0											
				62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0											
Juvenile Rearing and Emigration	November through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1									
				10	Lower 25%	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9									
			Mouth of the Lower Feather River	10	All Years	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9									
				10	Lower 25%	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5									
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			Below the Thermalito Afterbay Outlet	60	All Years	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			Mouth of the Lower Feather River	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				63	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				65	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									

**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0			
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0						22.0	12.2	
				10	10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0						42.9	23.8	
			Mouth of the Lower Feather River	10	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0						8.5	4.9	
				10	10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0						14.3	4.8	
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years	0.0	0.0	0.2	0.0	0.0	0.1	0.0						0.0	0.0	
				56	56	All Years	1.3	0.7	0.0	0.0	0.0	0.0	0.0						0.0	-2.5	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
			Below the Thermalito Afterbay Outlet	52	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
				56	56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.3					0.0	0.0	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					2.5	0.0	
			Mouth of the Lower Feather River	52	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
				56	56	All Years	0.0	0.2	0.0	0.0	0.0	0.0	1.3	0.0					0.0	0.0	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-1.3	0.6	
			Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years				0.0	0.0	0.0	0.0	0.0				
							10	10	Lower 25%				0.0	0.0	0.0	0.0	0.0				
					Below the Thermalito Afterbay Outlet	10	10	All Years				1.2	-7.3	-14.6	-6.1	0.0	0.0				
10	10	Lower 25%							-4.8	9.5	-9.5	4.8	0.0	0.0							
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52			52	All Years				0.2	0.0	0.0	0.1	0.0	0.0						
		54			54	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
		57		57	All Years				0.0	0.0	0.0	0.0	0.0	1.3							
	Below the Thermalito Afterbay Outlet	52		52	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
		54		54	All Years				0.0	0.0	0.0	0.0	1.3	0.0	0.0						
		57		57	All Years				0.0	0.0	0.0	0.0	1.1	0.0	0.0						
December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek		10	10	All Years				-13.4	8.5	17.1	28.0	3.7							
	Juvenile Rearing and Emigration	Year-round		Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10			10			Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Below the Thermalito Afterbay Outlet			10	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2				
			10	10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8				
Monthly Mean Water Temperatures (°F)			Low Flow Channel below the Fish Barrier Dam	65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		72		72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Below the Thermalito Afterbay Outlet	65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	0.0	0.0	0.0	-3.8		
			68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3	0.0	3.0	0.1			
			72	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.5	0.0		
75		All Years	75	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0		
			Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
10	10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Below the Thermalito Afterbay Outlet	10	10				All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0							
	10	10				Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0							
Mouth of the Lower Feather River	10	10				Lower 25%	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2							
	10	10				Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0							
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52			52	All Years	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0							
		55			55	All Years	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0							
		59			59	All Years	-0.9	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	Below the Thermalito Afterbay Outlet	52			52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		55			55	All Years	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		59			59	All Years	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
	Mouth of the Lower Feather River	52			52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
		55			55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0						
		59			59	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Feather River at Shanghai Bend	10	All Years	-11.0	-2.4	0.0		-2.4	-6.1	0.0	0.0	4.9	-3.7	4.9	8.5	
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	19.0	-14.3	9.5	14.3	
			Mouth of the Lower Feather River	10	All Years	-2.4	0.0	4.9		1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9	
				10	Lower 25%	0.0	0.0	9.5		9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8	
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-1.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.5	-0.5
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.4	0.0
			Below the Thermalito Afterbay Outlet	61	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				64	All Years	0.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5
			Mouth of the Lower Feather River	61	All Years	-0.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.2	1.3	0.0	3.0	0.1
			Mouth of the Lower Feather River	61	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mouth of the Lower Feather River	64	All Years	0.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0			
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years							-6.1	0.0	0.0	17.1	-2.4	22.0	
				10	Lower 25%							4.8	0.0	0.0	42.9	-9.5	42.9	
Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	68	All Years								0.0	0.0	0.2	1.3	0.0	3.0		
Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2	
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8	
			Mouth of the Lower Feather River	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9	
				10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8	
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	-1.3
				66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								0.0	17.1	-2.4	22.0	12.2	
				10	Lower 25%								0.0	42.9	-9.5	42.9	23.8	
			Feather River at Shanghai Bend	10	All Years								0.0	4.9	-3.7	4.9	8.5	
				10	Lower 25%								0.0	19.0	-14.3	9.5	14.3	
			Mouth of the Lower Feather River	10	All Years								-1.2	4.9	-2.4	8.5	4.9	
				10	Lower 25%								0.0	9.5	-9.5	14.3	4.8	
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years									0.0	1.3	0.0	0.0	-1.3
				66	All Years									0.0	0.0	0.0	0.0	



**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration	January through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Mouth of the Lower Feather River	10	10	All Years	-7.3	-14.6	-6.1	0.0	0.0	17.1								
				10	10	Lower 25%	9.5	-9.5	4.8	0.0	0.0	42.9								
				10	10	All Years	-1.2	1.2	-2.4	0.0	-1.2	4.9								
				10	10	Lower 25%	-4.8	9.5	-4.8	0.0	0.0	9.5								
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	10	All Years	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0						
				10	10	Lower 25%	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9						
				Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					50-64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
					50-64		All Years	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
					Mouth of the Lower Feather River	50-64		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
						10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	10	Lower 25%	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2		
				10	10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8		
				10	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9		
				10	10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8		
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-3.8	-1.3	-0.4	-2.5		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
				Adult Immigration	September through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Mouth of the Lower Feather River	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1			12.2		
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9			23.8		
				10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9			4.9		
				10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5			4.8		
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10	All Years					-14.6	-6.1	0.0	0.0	17.1	-2.4				
			10	Lower 25%					-9.5	4.8	0.0	0.0	42.9	-9.5					
		Mouth of the Lower Feather River	10	All Years					1.2	-2.4	0.0	-1.2	4.9	-2.4					
			10	Lower 25%					9.5	-4.8	0.0	0.0	9.5	-9.5					
Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>	All Years							0.0	1.3	0.0	0.0	0.0	-0.5				
	Below the Thermalito Afterbay Outlet	50-64	All Years							0.0	-0.2	0.0	0.0	0.0	0.0				
	Mouth of the Lower Feather River	50-64	All Years							-1.3	0.0	0.0	0.0	0.0	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2		
			10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8			
		Mouth of the Lower Feather River	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9			
			10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8			
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.5	0.0	
			Mouth of the Lower Feather River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-3.8	-1.3	-0.4	-2.5	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10		All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2
				10		Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9
				10		Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8
			Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	0.0	0.0	-3.8
			Mouth of the Lower Feather River	65-82		All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years							0.0	0.0	0.0			
				10		Lower 25%							0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10		All Years							0.0	0.0	17.1			
				10		Lower 25%							0.0	0.0	42.9			
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years								0.0	-1.2	4.9		
				10		Lower 25%							0.0	0.0	9.5			
			Low Flow Channel below the Fish Barrier Dam	59-64		All Years							0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	59-64		All Years							0.0	0.0	0.0			
			Mouth of the Lower Feather River	59-64		All Years							0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2	
				10		Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8	
			Mouth of the Lower Feather River	10		All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9	
			10		Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years						0.0	0.0	0.0	0.0		
	10					Lower 25%						0.0	0.0	0.0	0.0				
Below the Thermalito Afterbay Outlet	10					All Years						-6.1	0.0	0.0	17.1				
	10					Lower 25%						4.8	0.0	0.0	42.9				
Mouth of the Lower Feather River	10					All Years						-2.4	0.0	-1.2	4.9				
	10				Lower 25%						-4.8	0.0	0.0	9.5					
Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam			60		All Years							0.0	0.0	0.0	0.0			
	Below the Thermalito Afterbay Outlet			60		All Years							0.0	0.0	0.0	0.0			
	Mouth of the Lower Feather River			60		All Years							0.0	0.0	0.0	0.0			

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						1.2	-2.4	0.0	-1.2				
					10	Lower 25%						9.5	-4.8	0.0	0.0				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								0.0	0.0	17.1				
				10	Lower 25%								0.0	0.0	42.9				
			Mouth of the Feather River	10	All Years								0.0	-1.2	4.9				
				10	Lower 25%								0.0	0.0	9.5				
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68 <sup>1</sup>		All Years								0.0	-0.2	-1.3			
			Mouth of the Feather River	59-68		All Years								0.0	0.0	0.0			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2		
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8		
			Mouth of the Feather River	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9		
				10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71		All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.7	-1.3	-2.5
			Mouth of the Feather River	61-71		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								0.0	0.0	17.1					
					10	Lower 25%							0.0	0.0	42.9						
			Mouth of the Feather River		10	All Years							0.0	-1.2	4.9						
					10	Lower 25%							0.0	0.0	9.5						
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years								0.0	0.0	1.3				
					60-70		All Years								0.0	0.0	1.3				
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-14.6	-8.5									-2.4	22.0	12.2		
					10	Lower 25%	0.0	0.0										-9.5	42.9	23.8	
			Mouth of the Feather River		10	All Years	-2.4	0.0											-2.4	8.5	4.9
					10	Lower 25%	0.0	0.0											-9.5	14.3	4.8
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	-0.3	0.0										0.0	0.0	-0.4
					63-77		All Years	0.6	0.0										0.5	0.6	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2	
				10	Lower 25%	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8	
			Mouth of the Feather River	10	All Years	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9	
				10	Lower 25%	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8	
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	0.0	0.0	0.0				
			Mouth of the Feather River	59-75		All Years					0.0	0.0	0.0	0.8				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to Existing Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0						
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0						
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9						
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	60	All Years	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0					
				63	All Years	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.1					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7					
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	60	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0					
				63	All Years	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.1					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5					
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5					



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3							8.5	45.1	
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5								76.2	76.2
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2								18.3	26.8
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8									57.1
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	-2.5	-1.7	0.0	0.0	0.0	2.4	2.5						0.0	0.0	
				56	All Years	-0.3	-1.2	0.0	0.0	0.0	0.0	0.0	0.0						0.0	-7.5	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				52	All Years	0.0	-1.3	0.0	0.0	0.0	-0.2	0.0	0.0						0.0	0.0	
				56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-1.9						0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						8.8	0.0	
			Below the Thermalito Afterbay Outlet	52	All Years	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.0						0.0	0.0	
				56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				52	All Years	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	-4.4	
Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				10	Lower 25%			0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Below the Thermalito Afterbay Outlet	10	All Years			-31.7	-8.5	-4.9	2.4	-7.3	-19.5								
		10		Lower 25%			-14.3	-4.8	0.0	4.8	-9.5	-9.5									
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years			-1.7	0.0	0.0	2.4	2.5	0.0								
				54	All Years			0.0	0.0	0.0	-0.3	-0.2	0.0								
				57	All Years			0.0	0.0	0.0	0.0	0.0	0.0	1.3							
			Below the Thermalito Afterbay Outlet	60	All Years			0.0	0.0	0.0	0.0	0.0	0.0								
				52	All Years			0.0	0.0	-0.2	0.0	0.0	0.0								
	54			All Years			0.0	0.0	0.0	0.0	3.8	0.0	0.0								
	December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek	10	All Years			37.8	8.5	2.4	7.3	22.0									
				Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
								10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1
						10		Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2	
Monthly Mean Water Temperatures (°F)						Low Flow Channel below the Fish Barrier Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	68	All Years	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	72	All Years	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Below the Thermalito Afterbay Outlet	65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	-4.4			
		68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8	2.5	-5.0	-1.0			
		72	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	1.9	0.0					
October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
		Below the Thermalito Afterbay Outlet	10		All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5								
			10		Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5								
		Mouth of the Lower Feather River	10		All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3								
			10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6									
October through May	Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	-2.5	-1.7	0.0	0.0	2.4	2.5	0.0									
			55	All Years	1.5	-2.3	0.0	0.0	0.0	-0.3	0.0	0.4									
			59	All Years	-1.7	-0.3	0.0	0.0	0.0	0.0	0.0	0.0									
			52	All Years	0.0	-1.3	0.0	0.0	0.0	-0.2	0.0	0.0									
			55	All Years	0.0	-1.3	0.0	0.0	0.0	-0.4	0.0	0.0									
			59	All Years	4.4	0.0	0.0	0.0	0.0	0.0	-0.1	0.0									
		Below the Thermalito Afterbay Outlet	52	All Years	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.0									
			55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			52	All Years	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0								
			55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
			59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend	10	All Years	-50.0	-3.7	-23.2		1.2	-1.2	-1.2	-6.1	29.3	4.9	13.4	32.9			
				10	Lower 25%	-28.6	-4.8	-19.0		0.0	0.0	0.0	-19.0	23.8	19.0	57.1	47.6			
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9		-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8			
				10	Lower 25%	-9.5	0.0	9.5		-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0			
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-1.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.8	-0.5	
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.7	0.0	
			Below the Thermalito Afterbay Outlet	61	All Years	0.2	0.0	0.0		0.0	0.0	1.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	
				64	All Years	-0.4	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	0.0	0.0	-2.5	
			Mouth of the Lower Feather River	61	All Years	3.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				64	All Years	0.3	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.6	-0.1	0.0	0.0	0.0	0.0	0.0	
					All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.6	-0.1	0.0	0.0	0.0	0.0	-8.3	
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years						2.4	-7.3	-19.5	28.0	9.8	8.5				
				10	Lower 25%						4.8	-9.5	-9.5	100.0	38.1	76.2				
Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1			
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2			
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8			
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0			
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	6.3	0.0	1.3	0.0			
				66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	-1.3			
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								-19.5	28.0	9.8	8.5	45.1			
				10	Lower 25%								-9.5	100.0	38.1	76.2	76.2			
			Feather River at Shanghai Bend	10	All Years									-6.1	29.3	4.9	13.4	32.9		
				10	Lower 25%									-19.0	23.8	19.0	57.1	47.6		
		Mouth of the Lower Feather River	10	All Years									-7.3	32.9	4.9	18.3	26.8			
			10	Lower 25%									-28.6	9.5	19.0	57.1	19.0			
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years									-0.4	6.3	0.0	1.3	0.0		
				66	All Years									0.0	0.0	0.0	0.0	-1.3		

**White Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	November through May	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Feather River at Shanghai Bend	10	All Years	-3.7	-23.2	-1.2	1.2	-1.2	-1.2	-6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	Lower 25%	-4.8	-19.0	0.0	0.0	0.0	0.0	-19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10	All Years	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	Lower 25%	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Fish Barrier Dam	77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend*	10	All Years	0.0	0.0	0.0	0.0	1.2	-1.2	-6.1	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	-19.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10	All Years	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	Lower 25%	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Fish Barrier Dam	61	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	61	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend	10	All Years	-50.0	-3.7	-23.2	-1.2	1.2	-1.2	-6.1	29.3	4.9	13.4	32.9	0.0	0.0	
				10	Lower 25%	-28.6	-4.8	-19.0	0.0	0.0	0.0	-19.0	23.8	19.0	57.1	47.6	0.0	0.0	
		Monthly mean water temperatures (°F)	Mouth of the Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8	0.0	0.0
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0	0.0	0.0
			Below the Fish Barrier Dam	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	6.3	0.0	1.3	0.0	
	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	-1.3			

**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0					
			Below the Thermalito Afterbay Outlet	10	All Years				-8.5	-4.9	2.4	-7.3	-19.5	28.0					
				10	Lower 25%				-4.8	0.0	4.8	-9.5	-9.5	100.0					
			Mouth of the Lower Feather River	10	All Years				-1.2	-2.4	0.0	-1.2	-7.3	32.9					
				10	Lower 25%				-4.8	-4.8	-4.8	-4.8	-28.6	9.5					
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10	All Years				-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5			
				10	Lower 25%				-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2			
			Mouth of the Lower Feather River	10	All Years				-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3			
						10	Lower 25%				-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years					-1.7	-6.3	-1.6	0.0	0.0	0.0	-0.7	-1.7	
			Below the Thermalito Afterbay Outlet	50-64		All Years					0.0	-1.3	-0.3	0.0	1.3	-1.4	0.0	0.0	
				50-64		All Years					0.0	-2.5	0.0	-1.3	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	50-64			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1		
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2		
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8		
						10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	1.9	0.0
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mouth of the Lower Feather River	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.5	-2.5	-3.8	-1.9		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	September through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0				45.1
				10		Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0				76.2
			Mouth of the Lower Feather River	10		All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9				26.8
				10		Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-28.6	9.5			19.0		
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years					0.0	0.0	0.0	0.0	0.0	0.0			
				10		Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10		All Years					-4.9	2.4	-7.3	-19.5	28.0	9.8			
				10		Lower 25%					0.0	4.8	-9.5	-9.5	100.0	38.1			
		Mouth of the Lower Feather River	10		All Years					-2.4	0.0	-1.2	-7.3	32.9	4.9				
						10		Lower 25%				-4.8	-4.8	-4.8	-28.6	9.5	19.0		
		Monthly mean water temperatures (deg. F)	50-64 <sup>1</sup>		All Years							-6.3	-1.6	0.0	0.0	0.0	-0.7		
	50-64		All Years							-1.3	-0.3	0.0	1.3	-1.4	0.0				
	50-64		All Years							-2.5	0.0	-1.3	0.0	0.0	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10		All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1	
				10		Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2	
		Mouth of the Lower Feather River	10		All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8		
			10		Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0	
		Monthly mean water temperatures (°F)	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	1.9	0.0	
	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.5	-2.5	-3.8	-1.9			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1		
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2		
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8		
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0	
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	0.0	-4.4
			Mouth of the Lower Feather River	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years								0.0	0.0	0.0				
				10	Lower 25%									0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10	All Years									-7.3	-19.5	28.0			
				10	Lower 25%										-9.5	-9.5	100.0		
			Mouth of the Lower Feather River	10	All Years										-1.2	-7.3	32.9		
				10	Lower 25%											-4.8	-28.6	9.5	
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	59-64	All Years										0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	59-64	All Years										-0.1	1.3	-1.4		
			Mouth of the Lower Feather River	59-64	All Years											-1.3	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1		
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2		
			Mouth of the Lower Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8		
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0	
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years							0.0	0.0	0.0	0.0				
				10	Lower 25%								0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10	All Years							2.4	-7.3	-19.5	28.0				
				10	Lower 25%							4.8	-9.5	-9.5	100.0				
			Mouth of the Lower Feather River	10	All Years							0.0	-1.2	-7.3	32.9				
				10	Lower 25%							-4.8	-4.8	-28.6	9.5				
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years								0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	60	All Years								0.0	0.0	-1.3	0.0			
			Mouth of the Lower Feather River	60	All Years								0.0	1.3	0.0	0.0			

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						-2.4	0.0	-1.2	-7.3				
					10	Lower 25%						-4.8	-4.8	-4.8	-28.6				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years															
					10	Lower 25%															
		Mouth of the Feather River			10	All Years															
					10	Lower 25%															
Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68 <sup>1</sup>			All Years																
	Mouth of the Feather River	59-68			All Years																
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1			
					10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2			
		Mouth of the Feather River			10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8			
					10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0			
Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71			All Years	0.2	0.0	0.0	0.0	0.0	0.0	1.0	-1.3	-0.4	1.6	-5.0	-0.6				
	Mouth of the Feather River	61-71			All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.3	2.5	0.6				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years									-7.3	-19.5	28.0					
					10	Lower 25%										-9.5	-9.5	100.0				
		Mouth of the Feather River			10	All Years										-1.2	-7.3	32.9				
					10	Lower 25%											-4.8	-28.6	9.5			
Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	60-70 <sup>1</sup>			All Years										0.0	-1.3	1.7					
	Mouth of the Feather River	60-70			All Years										1.3	0.0	2.5					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-51.2	-13.4										9.8	8.5	45.1		
						10	Lower 25%	-28.6	-9.5										38.1	76.2	76.2	
			Mouth of the Feather River			10	All Years	-43.9	-2.4											4.9	18.3	26.8
						10	Lower 25%	-9.5	0.0												19.0	57.1
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	63-77			All Years	-1.1	0.0											0.0	0.0	0.5
			Mouth of the Feather River	63-77			All Years	1.9	0.0												-0.6	0.6

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1	
				10	Lower 25%	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	100.0	38.1	76.2	76.2		
			Mouth of the Feather River	10	All Years	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8	
				10	Lower 25%	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0	
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>	All Years						0.0	-0.1	0.0	0.0				
			Mouth of the Feather River	59-75	All Years							-0.1	0.0	0.0	1.5			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to No Action Alternative Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5							
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7							
			Mouth of the Lower Feather River	10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4							
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	60	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0				
				63	All Years	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.1				
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5				
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Mouth of the Lower Feather River	60	All Years	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0				
				63	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0					
				65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.1					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8				



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0
				10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1							-8.5	25.6
			Below the Thermalito Afterbay Outlet	10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5							57.1	57.1
				10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2							0.0	6.1
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8							42.9	23.8
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	-2.5	-1.9	0.0	0.0	2.3	2.5							0.0	0.0
				56	All Years	-1.6	-1.9	0.0	0.0	0.0	0.0	0.0							0.0	-5.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0
			Below the Thermalito Afterbay Outlet	52	All Years	0.0	-1.3	0.0	0.0	-0.2	0.0	0.0							0.0	0.0
				56	All Years	0.0	0.0	0.0	0.0	0.0	-2.0	-0.6							0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							6.3	0.0
	Mouth of the Lower Feather River	52	All Years	0.0	0.0	0.0	0.0	-1.1	0.0	0.0							0.0	0.0		
		56	All Years	0.0	0.3	0.0	0.0	0.0	-1.3	0.0							0.0	0.0		
		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							1.3	-5.0		
	Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years				0.0	0.0	0.0	0.0	0.0						
					10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0					
				Below the Thermalito Afterbay Outlet	10	All Years				-29.3	-1.2	11.0	9.8	-6.1	-24.4					
10			Lower 25%					-9.5	-9.5	4.8	4.8	-9.5	-9.5							
52			All Years					-1.9	0.0	0.0	2.3	2.5	0.0							
Monthly Mean Water Temperatures (°F)			Low Flow Channel below the Fish Barrier Dam	54	All Years				0.0	0.0	0.0	-0.4	-0.2	0.0						
		57		All Years				0.0	0.0	0.0	0.0	0.0	0.0							
		60		All Years				0.0	0.0	0.0	0.0	0.0	0.0							
		Below the Thermalito Afterbay Outlet	52	All Years				0.0	0.0	-0.2	0.0	0.0	0.0							
			54	All Years				0.0	0.0	0.0	2.5	0.0	0.0							
			57	All Years				0.0	0.0	0.0	-3.3	0.0	0.0							
December through April		Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek	10	All Years				41.5	0.0	-14.6	-29.3	22.0							
	Juvenile Rearing and Emigration			Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Below the Thermalito Afterbay Outlet		10	All Years			-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6			
		10	Lower 25%		-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1				
		65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Monthly Mean Water Temperatures (°F)		Low Flow Channel below the Fish Barrier Dam	68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Below the Thermalito Afterbay Outlet	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3	0.0	0.0	-0.6			
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	-8.0	-1.1			
			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.3	0.0			
75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0			
	Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
					10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
10					All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4							
Below the Thermalito Afterbay Outlet				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5							
				10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1							
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6							
Monthly Mean Water Temperatures (°F)			Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	-2.5	-1.9	0.0	0.0	2.3	2.5	0.0							
				55	All Years	0.6	-3.2	0.0	0.0	0.0	-0.3	0.0	0.4							
				59	All Years	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Below the Thermalito Afterbay Outlet	52	All Years	0.0	-1.3	0.0	0.0	-0.2	0.0	0.0	0.0							
				55	All Years	0.0	-2.5	0.0	0.0	0.0	-0.4	0.0	0.0							
				59	All Years	0.6	0.0	0.0	0.0	0.0	0.0	-0.1	0.0							
Mouth of the Lower Feather River		52	All Years	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.0									
		55	All Years	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0									
		59	All Years	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0								

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend	10	All Years	-32.9	-1.2	-24.4		6.1	1.2	-1.2	-11.0	3.7	8.5	-3.7	18.3			
				10	Lower 25%	-19.0	0.0	-19.0		0.0	0.0	-28.6	9.5	33.3	47.6	28.6				
			Mouth of the Lower Feather River	10	All Years	-35.4	-1.2	-41.5		-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1			
				10	Lower 25%	-9.5	0.0	4.8		-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8			
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	2.5	-9.3	0.0		
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.1	0.0		
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				61	All Years	0.0	0.0	0.0		0.0	0.0	1.0	-1.3	0.0	0.0	0.0	1.9			
			Mouth of the Lower Feather River	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	2.5	-8.0	-1.1	
				68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	2.5	2.5	-8.0	-1.1			
			Mouth of the Lower Feather River	61	All Years	3.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				64	All Years	-0.4	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.6	-0.1	0.0	0.0	0.0	0.0	-3.3				
	Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years						9.8	-6.1	-24.4	19.5	12.2	-8.5			
10					Lower 25%						4.8	-9.5	-9.5	85.7	47.6	57.1				
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	68	All Years						0.0	0.0	0.0	2.5	2.5	-8.0				
				Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5
10	Lower 25%	-28.6	-9.5					-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1			
Mouth of the Lower Feather River	10	All Years	-35.4				-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1			
	10	Lower 25%	-9.5				0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8			
Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	5.0	0.0	1.3	1.3		
		66	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	-1.3		
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								-24.4	19.5	12.2	-8.5	25.6			
				10	Lower 25%								-9.5	85.7	47.6	57.1	57.1			
			Feather River at Shanghai Bend	10	All Years									-11.0	3.7	8.5	-3.7	18.3		
				10	Lower 25%									-28.6	9.5	33.3	47.6	28.6		
			Mouth of the Lower Feather River	10	All Years									-6.1	2.4	4.9	0.0	6.1		
				10	Lower 25%									-28.6	-23.8	19.0	42.9	23.8		
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years									-0.4	5.0	0.0	1.3	1.3		
				66	All Years									0.0	0.0	0.0	0.0	-1.3		



**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
				Adult Immigration	January through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years				0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	10	10	All Years				-1.2	11.0	9.8	-6.1	-24.4	19.5				
				10	10	Lower 25%				-9.5	4.8	4.8	-9.5	-9.5	85.7				
				10	10	All Years				1.2	-1.2	6.1	-1.2	-6.1	2.4				
				10	10	Lower 25%				4.8	-4.8	14.3	-4.8	-28.6	-23.8				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	All Years				-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5		
				10	10	Lower 25%				-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1		
				10	10	All Years				1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0		
			10	10	Lower 25%				4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9			
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years					-1.3	-6.3	-2.8	0.0	0.0	0.0	-0.1	-2.1	
				50-64		All Years					0.0	-1.3	-0.1	0.0	1.3	-1.4	0.0	0.0	
				50-64		All Years					0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6	
				10	10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1	
				10	10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1	
			10	10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.3	0.0
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	-3.3

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration	September through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Mouth of the Lower Feather River	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5				25.6		
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7				57.1		
				10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4				6.1		
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8				23.8		
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	All Years					11.0	9.8	-6.1	-24.4	19.5	12.2					
				10	Lower 25%					4.8	4.8	-9.5	-9.5	85.7	47.6					
				Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>	All Years					-6.3	-2.8	0.0	0.0	0.0	-0.1			
					Below the Thermalito Afterbay Outlet	50-64	All Years					-1.3	-0.1	0.0	1.3	-1.4	0.0			
					Mouth of the Lower Feather River	50-64	All Years					-1.3	0.0	-1.3	0.0	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6			
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1			
				Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					Below the Thermalito Afterbay Outlet	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.3	0.0	
					Mouth of the Lower Feather River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.3	-3.3	0.6

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6	
				10		Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1	
			10		All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1		
			10		Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3	0.0	0.0	-0.6
Mouth of the Lower Feather River	65-82			All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years							0.0	0.0	0.0				
				10		Lower 25%							0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10		All Years							-6.1	-24.4	19.5				
				10		Lower 25%							-9.5	-9.5	85.7				
			10		All Years							-1.2	-6.1	2.4					
			10		Lower 25%							-4.8	-28.6	-23.8					
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	59-64		All Years								0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	59-64		All Years								-0.1	1.3	-1.4			
Mouth of the Lower Feather River	59-64			All Years								-1.3	0.0	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6		
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1		
				10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1		
			10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8			
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years						0.0	0.0	0.0	0.0			
	10				Lower 25%						0.0	0.0	0.0	0.0					
Below the Thermalito Afterbay Outlet	10				All Years						9.8	-6.1	-24.4	19.5					
	10				Lower 25%						4.8	-9.5	-9.5	85.7					
	10				All Years						6.1	-1.2	-6.1	2.4					
	10			Lower 25%						14.3	-4.8	-28.6	-23.8						
Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam			60	All Years							0.0	0.0	0.0	0.0				
	Below the Thermalito Afterbay Outlet			60	All Years							0.0	0.0	-1.3	0.0				
	Mouth of the Lower Feather River			60	All Years							0.0	1.3	0.0	0.0				

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						-1.2	6.1	-1.2	-6.1				
					10	Lower 25%						-4.8	14.3	-4.8	-28.6				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years															
				10	Lower 25%								-6.1	-24.4	19.5					
			Mouth of the Feather River	10	All Years															
				10	Lower 25%											-1.2	-6.1	2.4		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68 <sup>1</sup>	All Years															
				59-68	All Years											-0.1	0.0	-2.5		
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6			
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1			
			Mouth of the Feather River	10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1			
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-1.3	-0.9	-0.1	-3.8	1.9		
				61-71	All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.3	1.3	1.9		
Mouth of the Feather River	61-71	All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.3	1.3	1.9				
	61-71	All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.3	1.3	1.9				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-6.1	-24.4	19.5					
					10	Lower 25%										-9.5	-9.5	85.7			
			Mouth of the Feather River		10	All Years											-1.2	-6.1	2.4		
					10	Lower 25%												-4.8	-28.6	-23.8	
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years									0.0	-1.3	0.5			
					60-70		All Years										1.3	0.0	1.3		
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-47.6	-2.4									12.2	-8.5	25.6		
					10	Lower 25%	-28.6	-9.5										47.6	57.1	57.1	
			Mouth of the Feather River		10	All Years	-35.4	-1.2											4.9	0.0	6.1
					10	Lower 25%	-9.5	0.0											19.0	42.9	23.8
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	-0.7	0.0										0.0	0.0	0.9
					63-77		All Years	1.3	0.0											-1.1	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6		
				10	Lower 25%	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1		
			Mouth of the Feather River	10	All Years	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1		
				10	Lower 25%	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8		
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	-0.1	0.0	0.0					
			Mouth of the Feather River	59-75		All Years						-0.1	0.0	0.0	0.8				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to Existing Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2							
				10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5							
			Mouth of the Lower Feather River	10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3							
				10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	60	All Years	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1				
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-1.3				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5				
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Mouth of the Lower Feather River	60	All Years	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	
			63	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	
			65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	
			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	
			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8							31.7	48.8
				10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5							81.0	85.7
			Mouth of the Lower Feather River	10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2							24.4	31.7
				10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8							61.9	42.9
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	0.0	-1.7	0.0	0.0	1.8	2.5						0.0	0.0	
				56	All Years	-1.5	-1.1	0.0	0.0	0.0	0.0	0.0						0.0	-8.8	
			Below the Thermalito Afterbay Outlet	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
			Mouth of the Lower Feather River	56	All Years	0.0	-0.5	0.0	0.0	0.0	-1.3	-1.9						0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						5.0	0.0	
			Mouth of the Lower Feather River	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0					0.0	0.0	
				56	All Years	0.0	0.6	0.0	0.0	0.0	-1.3	0.0						0.0	0.0	
70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							-2.5	-2.9				
Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
				10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0						
		Below the Thermalito Afterbay Outlet	10	All Years				-25.6	-9.8	-9.8	-11.0	-9.8	-24.4							
			10	Lower 25%				-9.5	0.0	-4.8	-4.8	-9.5	-14.3							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years				-1.7	0.0	0.0	1.8	2.5	0.0						
				54	All Years				0.0	0.0	0.0	-0.4	0.0	0.0						
	Below the Thermalito Afterbay Outlet		57	All Years				0.0	0.0	0.0	0.0	0.0	1.3							
			60	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
	Mouth of the Lower Feather River	Below the Thermalito Afterbay Outlet	52	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
			54	All Years				0.0	0.0	0.0	0.0	2.5	0.0	0.0						
Mouth of the Lower Feather River		57	All Years				0.0	0.0	0.0	0.0	-2.2	-1.3	0.0							
		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0							
December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek	10	All Years				29.3	8.5	8.5	25.6	22.0								
Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		Below the Thermalito Afterbay Outlet	10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8				
			10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7				
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-1.3	0.0	0.0			
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5	6.3	-2.9			
72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.6							
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6							
Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Below the Thermalito Afterbay Outlet	10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4							
				10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3							
			Mouth of the Lower Feather River	10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5							
				10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	0.0	-1.7	0.0	0.0	1.8	2.5	0.0							
				55	All Years	0.8	-2.2	0.0	0.0	0.0	-0.3	0.0	0.4							
			Below the Thermalito Afterbay Outlet	59	All Years	-0.6	-0.3	0.0	0.0	0.0	0.0	0.0	0.0							
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Mouth of the Lower Feather River	55	All Years	0.0	-2.5	0.0	0.0	0.0	0.0	0.0	0.0							
				59	All Years	5.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0							
			Mouth of the Lower Feather River	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0							
				55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
59	All Years	0.8	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0										



White Sturgeon in the Lower Feather River

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration and Holding	November through May		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			10	Lower 25%	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0							
			Feather River at Shanghai Bend	10	All Years	-6.1		-17.1	-4.9	-2.4	-7.3	-2.4	-7.3							
				10	Lower 25%	-9.5		-9.5	0.0	0.0	0.0	-4.8	-19.0							
			Mouth of the Lower Feather River	10	All Years	-1.2		-18.3	0.0	-3.7	-2.4	-1.2	-8.5							
				10	Lower 25%	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3								
		Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
				Below the Thermalito Afterbay Outlet	77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				Mouth of the Feather River	77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0							
						10	Lower 25%					0.0	0.0	0.0	0.0					
						Feather River at Shanghai Bend*	10	All Years					-2.4	-7.3	-2.4	-7.3				
							10	Lower 25%					0.0	0.0	-4.8	-19.0				
						Mouth of the Lower Feather River	10	All Years					-3.7	-2.4	-1.2	-8.5				
						10	Lower 25%					-9.5	0.0	-4.8	-33.3					
		Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	61	All Years					0.0	0.0	0.0	0.0							
				Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	0.9	-2.5						
				Mouth of the Feather River	61	All Years					0.0	0.0	0.0	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
						10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
						Feather River at Shanghai Bend	10	All Years	-36.6	-6.1	-17.1	-4.9	-2.4	-7.3	-2.4	-7.3	11.0	2.4	23.2	41.5
							10	Lower 25%	-9.5	-9.5	-9.5	0.0	0.0	0.0	-4.8	-19.0	-9.5	9.5	57.1	66.7
						Mouth of the Feather River	10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7
						10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9	
				Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
						Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.8	0.0	-2.5	-1.0
						Mouth of the Feather River	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.3

**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition															
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
				Adult Immigration	January through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0							
			Mouth of the Lower Feather River	10	All Years					0.0	-4.8	-4.8	-9.5	-14.3	90.5							
				10	Lower 25%					0.0	-3.7	-2.4	-1.2	-8.5	18.3							
				10	Lower 25%					0.0	-9.5	0.0	-4.8	-33.3	-28.6							
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				10	All Years						-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7				
				10	Lower 25%						0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0				
				10	All Years						0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4				
			10	Lower 25%						0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9					
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>	All Years							-2.3	-2.5	-0.3	0.0	0.0	0.0	0.0	-0.4			
				50-64	All Years							0.0	-1.3	-0.5	0.0	1.3	-1.7	0.0	0.0			
				50-64	All Years							0.0	-2.5	0.0	-1.3	0.0	0.0	0.0	0.0			
		Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	10				Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
	10				All Years						-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8
	10				Lower 25%						4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7
	10				All Years						-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7
	10			Lower 25%						0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9	
Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam			72	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				72	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.6	0.0	
				72	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-1.3	-7.5	-3.1

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8	
				10		Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7	
			Mouth of the Lower Feather River	10		All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7	
				10		Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8					
				10		Lower 25%	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7					
			Mouth of the Lower Feather River	10		All Years	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7					
				10		Lower 25%	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9					
		Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	50-64		All Years	-1.3	-0.5	0.0	1.3	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Mouth of the Lower Feather River	50-64		All Years	-2.5	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8	
				10		Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7	
			Mouth of the Lower Feather River	10		All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7	
				10		Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9	
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.6	0.0
			Mouth of the Lower Feather River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-1.3	-7.5	-3.1

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10		All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8
				10		Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7
				10		Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9
			Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-1.3	0.0	0.0	-9.4
			Mouth of the Lower Feather River	65-82		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years							0.0	0.0	0.0			
				10		Lower 25%							0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10		All Years							-9.8	-24.4	23.2			
				10		Lower 25%							-9.5	-14.3	90.5			
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years								-1.2	-8.5	18.3		
				10		Lower 25%								-4.8	-33.3	-28.6		
			Low Flow Channel below the Fish Barrier Dam	59-64		All Years								0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	59-64		All Years								-0.1	1.3	-1.7		
			Mouth of the Lower Feather River	59-64		All Years								-1.3	0.0	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8	
				10		Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7	
				10		All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7	
			10		Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years							0.0	0.0	0.0	0.0	
	10					Lower 25%								0.0	0.0	0.0	0.0		
Below the Thermalito Afterbay Outlet	10					All Years								-11.0	-9.8	-24.4	23.2		
	10					Lower 25%									-4.8	-9.5	-14.3	90.5	
	10					All Years									-2.4	-1.2	-8.5	18.3	
	10				Lower 25%									0.0	-4.8	-33.3	-28.6		
Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam			60		All Years									0.0	0.0	0.0	0.0	
	Below the Thermalito Afterbay Outlet			60		All Years									0.0	0.0	0.0	0.0	
	Mouth of the Lower Feather River			60		All Years									0.0	1.3	0.0	0.0	

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						-3.7	-2.4	-1.2	-8.5				
					10	Lower 25%						-9.5	0.0	-4.8	-33.3				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-9.8	-24.4	23.2				
					10	Lower 25%								-9.5	-14.3	90.5				
			Mouth of the Feather River		10	All Years									-1.2	-8.5	18.3			
					10	Lower 25%									-4.8	-33.3	-28.6			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		59-68 <sup>1</sup>		All Years								-0.1	-0.2	-2.5			
					59-68		All Years								0.0	-0.6	0.0			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8		
					10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7		
			Mouth of the Feather River		10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7		
					10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		61-71		All Years	1.8	0.0	0.0	0.0	0.0	0.0	0.9	-2.5	-0.4	0.8	-6.3	0.6	
					61-71		All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-1.9	3.8	3.0	
Mouth of the Feather River		61-71		All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-1.9	3.8	3.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-9.8	-24.4	23.2					
					10	Lower 25%										-9.5	-14.3	90.5			
			Mouth of the Feather River		10	All Years											-1.2	-8.5	18.3		
					10	Lower 25%											-4.8	-33.3	-28.6		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years									0.0	0.0	0.6			
					60-70		All Years									1.3	0.0	3.8			
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-37.8	-15.9									9.8	31.7	48.8		
					10	Lower 25%	4.8	-23.8									38.1	81.0	85.7		
			Mouth of the Feather River		10	All Years	-32.9	-1.2											3.7	24.4	31.7
					10	Lower 25%	0.0	0.0											14.3	61.9	42.9
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	-0.3	0.0										0.0	0.0	0.3
					63-77		All Years	1.3	0.0											-0.6	0.6

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8	
				10	Lower 25%	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7	
			Mouth of the Feather River	10	All Years	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7	
				10	Lower 25%	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9	
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	-0.1	0.0	0.0				
			Mouth of the Feather River	59-75		All Years						-0.1	0.0	0.0	0.3			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to No Action Alternative Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4						
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2						
			Mouth of the Lower Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1						
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1			
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3			
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	60	All Years	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
				63	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0			
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
				10	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5						12.2	34.1	
			Below the Thermalito Afterbay Outlet	10	10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5						66.7	71.4	
				10	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2						14.6	20.7	
				10	10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8						52.4	52.4	
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years	0.0	0.0	-1.9	0.0	0.0	1.7	2.5						0.0	0.0	
				56	56	All Years	-2.7	-1.8	0.0	0.0	0.0	0.0	0.0						0.0	-6.3	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
			Below the Thermalito Afterbay Outlet	52	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
				56	56	All Years	0.0	-0.5	0.0	0.0	0.0	-1.1	-0.6						0.0	0.0	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						2.5	0.0	
			Mouth of the Lower Feather River	52	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0					0.0	0.0	
				56	56	All Years	0.0	0.4	0.0	0.0	0.0	-2.5	0.0						0.0	0.0	
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						-1.3	-3.5	
			Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years				0.0	0.0	0.0	0.0	0.0				
							10	10	Lower 25%				0.0	0.0	0.0	0.0	0.0				
							10	10	All Years				-25.6	-7.3	6.1	1.2	-8.5	-25.6			
Below the Thermalito Afterbay Outlet	10	10			Lower 25%				0.0	-4.8	0.0	0.0	-9.5	-14.3							
	52	52			All Years					-1.9	0.0	0.0	1.7	2.5	0.0						
	54	54			All Years					0.0	0.0	0.0	-0.4	0.0	0.0						
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	57		57	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
		60		60	All Years					0.0	0.0	0.0	0.0	0.0	0.0						
		52		52	All Years					0.0	0.0	0.0	0.0	0.0	0.0						
	Below the Thermalito Afterbay Outlet	54		54	All Years					0.0	0.0	0.0	0.0	1.3	0.0	0.0					
		57		57	All Years					0.0	0.0	0.0	0.0	-3.3	-1.3	0.0					
		60		60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0					
December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek	10	10	All Years				32.9	7.3	-6.1	-4.9	22.0								
Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				10	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1			
		Below the Thermalito Afterbay Outlet	10	10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4				
			65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				75	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-5.6		
			Below the Thermalito Afterbay Outlet	68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	6.3	-5.9	-1.1		
				72	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		
				75	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0		
Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				10	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6							
			Below the Thermalito Afterbay Outlet	10	10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3							
				10	10	Lower 25%	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1							
				10	10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years	0.0	0.0	-1.9	0.0	0.0	1.7	2.5	0.0							
				55	55	All Years	0.0	-3.2	0.0	0.0	0.0	-0.3	0.0	0.4							
				59	59	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
			Below the Thermalito Afterbay Outlet	52	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				55	55	All Years	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0							
				59	59	All Years	1.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0							
			Mouth of the Lower Feather River	52	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0						
				55	55	All Years	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0							
				59	59	All Years	0.8	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0						

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend	10	All Years	-7.3	-2.4	-18.3		4.9	-2.4	-2.4	-7.3	-9.8	0.0	9.8	35.4				
				10	Lower 25%	-4.8	-4.8	-9.5		0.0	0.0	-4.8	-14.3	-42.9	14.3	57.1	61.9				
			Mouth of the Lower Feather River	10	All Years	-15.9	-1.2	-29.3		-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7				
				10	Lower 25%	0.0	0.0	9.5		-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4				
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	-11.8	0.0		
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.8	0.0		
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				61	All Years	1.7	0.0	0.0		0.0	0.0	0.0	0.9	-2.5	0.0	0.0	0.0	0.0	3.1		
			Mouth of the Lower Feather River	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-1.3	1.7	0.0	0.0	0.0	5.4		
				68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	1.3	6.3	-5.9	-1.1			
			Mouth of the Lower Feather River	61	All Years	1.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				64	All Years	-1.0	0.0	0.0		0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	-4.2			
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years							1.2	-8.5	-25.6	2.4	9.8	12.2				
				10	Lower 25%							0.0	-9.5	-14.3	76.2	42.9	66.7				
Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	68	All Years							0.0	0.0	0.0	1.3	6.3	-5.9						
Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1				
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4				
			Mouth of the Lower Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7				
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4				
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.6	0.0	-2.5	0.2			
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.3			
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years									-25.6	2.4	9.8	12.2	34.1			
				10	Lower 25%									-14.3	76.2	42.9	66.7	71.4			
			Feather River at Shanghai Bend	10	All Years										-7.3	-9.8	0.0	9.8	35.4		
				10	Lower 25%										-14.3	-42.9	14.3	57.1	61.9		
			Mouth of the Lower Feather River	10	All Years										-6.1	-6.1	3.7	14.6	20.7		
				10	Lower 25%										-28.6	-52.4	14.3	52.4	52.4		
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years										0.3	4.6	0.0	-2.5	0.2		
				66	All Years										0.0	0.0	0.0	0.0	1.3		



**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
				Adult Immigration	January through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	10	All Years					-7.3	6.1	1.2	-8.5	-25.6	2.4				
				10	Lower 25%					-4.8	0.0	0.0	-9.5	-14.3	76.2				
				10	All Years					0.0	-2.4	2.4	-1.2	-6.1	-6.1				
				10	Lower 25%					0.0	-14.3	14.3	-4.8	-28.6	-52.4				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	All Years						-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	
				10	Lower 25%						-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	
			10	All Years						0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6		
			10	Lower 25%						0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4		
		Monthly mean water temperatures (°F)	50-64 <sup>1</sup>		All Years						-1.9	-2.5	-1.6	0.0	0.0	0.0	0.5	-0.8	
	50-64		All Years						0.0	-1.3	-0.3	0.0	1.3	-1.7	0.0	0.0			
	50-64		All Years						0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1		
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4		
			10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7			
			10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4			
		Monthly mean water temperatures (°F)	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		
	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	-7.1	-0.6		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4				34.1	
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2				71.4	
			Mouth of the Lower Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1				20.7	
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4				52.4	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years					6.1	1.2	-8.5	-25.6	2.4	9.8				
				10	Lower 25%					0.0	0.0	-9.5	-14.3	76.2	42.9				
			Mouth of the Lower Feather River	10	All Years					-2.4	2.4	-1.2	-6.1	-6.1	3.7				
				10	Lower 25%					-14.3	14.3	-4.8	-28.6	-52.4	14.3				
		Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>	All Years					-2.5	-1.6	0.0	0.0	0.0	0.5				
			Below the Thermalito Afterbay Outlet	50-64	All Years					-1.3	-0.3	0.0	1.3	-1.7	0.0				
			Mouth of the Lower Feather River	50-64	All Years					-1.3	0.0	-1.3	0.0	0.0	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1		
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4		
			Mouth of the Lower Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7		
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0		
			Mouth of the Lower Feather River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	-7.1	-0.6		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1	
				10		Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4	
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7	
				10		Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	14.3	52.4	52.4		
			Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-5.6	
			Mouth of the Lower Feather River	65-82		All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years							0.0	0.0	0.0				
				10		Lower 25%							0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10		All Years							-8.5	-25.6	2.4				
				10		Lower 25%							-9.5	-14.3	76.2				
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10		All Years								-1.2	-6.1	-6.1			
				10		Lower 25%								-4.8	-28.6	-52.4			
			Low Flow Channel below the Fish Barrier Dam	59-64		All Years								0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	59-64		All Years								-0.1	1.3	-1.7			
			Mouth of the Lower Feather River	59-64		All Years								-1.3	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1		
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4		
					10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7	
					10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4	
		Monthly mean water temperatures (°F)																	
					Low Flow Channel below the Fish Barrier Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Mouth of the Lower Feather River	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years							0.0	0.0	0.0	0.0				
				10	Lower 25%							0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years							1.2	-8.5	-25.6	2.4				
				10	Lower 25%							0.0	-9.5	-14.3	76.2				
					10	All Years						2.4	-1.2	-6.1	-6.1				
					10	Lower 25%						14.3	-4.8	-28.6	-52.4				
		Monthly mean water temperatures (°F)																	
					Low Flow Channel below the Fish Barrier Dam	60	All Years							0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	60	All Years							0.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	60	All Years							0.0	1.3	0.0	0.0				

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						-2.4	2.4	-1.2	-6.1				
					10	Lower 25%						-14.3	14.3	-4.8	-28.6				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								-8.5	-25.6	2.4					
				10	Lower 25%								-9.5	-14.3	76.2					
			Mouth of the Feather River	10	All Years									-1.2	-6.1	-6.1				
				10	Lower 25%										-4.8	-28.6	-52.4			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68 <sup>1</sup>	All Years										-0.1	0.0	-1.3			
				59-68	All Years										0.0	-0.6	0.0			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1			
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4			
			Mouth of the Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7			
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71	All Years	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-2.5	-0.9	-0.8	-5.0	3.1		
				61-71	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-1.9	2.5	4.2		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative															
			Description	Value	%	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-8.5	-25.6	2.4						
					10	Lower 25%									-9.5	-14.3	76.2					
			Mouth of the Feather River		10	All Years										-1.2	-6.1	-6.1				
					10	Lower 25%											-4.8	-28.6	-52.4			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years									0.0	0.0	-0.6				
					60-70		All Years										1.3	0.0	2.5			
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-18.3	-6.1										9.8	12.2	34.1		
					10	Lower 25%	0.0	-23.8											42.9	66.7	71.4	
			Mouth of the Feather River		10	All Years	-15.9	-1.2												3.7	14.6	20.7
					10	Lower 25%	0.0	0.0												14.3	52.4	52.4
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	0.0	0.0											0.0	0.0	0.7
					63-77		All Years	0.6	0.0												-1.1	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative									
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1
				10	Lower 25%	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4
			Mouth of the Feather River	10	All Years	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7
				10	Lower 25%	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	-0.1	0.0	0.0			
			Mouth of the Feather River	59-75		All Years						-0.1	0.0	0.0	-0.5		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to Existing Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	March through October	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0														
			Below the Thermalito Afterbay Outlet	10	All Years	-53.7							-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1	
				10	Lower 25%	-28.6							4.8	-9.5	-14.3	100.0	28.6	85.7	76.2	
			Mouth of the Lower Feather River	10	All Years	-39.0							-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4	
				10	Lower 25%	-4.8							0.0	-4.8	-28.6	9.5	19.0	42.9	28.6	
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-1.5											0.9	-6.2	-1.5	
				64	All Years	0.0							0.0	0.0	0.0	0.0	0.0	2.4	0.0	
				68	All Years	0.0							0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	60	All Years	5.6							0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.8
				64	All Years	-0.4							0.0	0.0	-1.3	1.4	0.0	0.0	0.0	-0.9
				68	All Years	0.0							0.0	0.0	0.1	3.8	3.8	-5.0	-1.0	
			Mouth of the Lower Feather River	60	All Years	2.5							0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
				64	All Years	0.6							0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
68	All Years	0.0								0.0	0.0	0.6	-0.2	0.0	0.0	0.0	-9.4			
Adult Spawning and Embryo Incubation	September through February	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0								0.0		
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0									0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4										56.1
				10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0										76.2
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	56	All Years	0.9	-0.3	0.0	0.0	0.0										-9.2
				58	All Years	-1.4	0.2	0.0	0.0	0.0										0.1
				60	All Years	-1.5	0.0	0.0	0.0	0.0										-1.5
			Below the Thermalito Afterbay Outlet	62	All Years	-1.3	0.0	0.0	0.0	0.0										
	56			All Years	-1.0	0.4	0.0	0.0	0.0											0.0
	58			All Years	-1.3	-0.2	0.0	0.0	0.0											-0.2
	60	All Years	5.6	0.0	0.0	0.0	0.0											0.8		
	62	All Years	-0.5	0.0	0.0	0.0	0.0											-6.9		
	September through December	Scaled Composite Weighted Usable Area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek		1	All Years	65.9	14.6	42.7										-35.4	
	Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10					Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Below the Thermalito Afterbay Outlet				10	All Years	-53.7	-14.6	-31.7	-9.8	2.4			-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1	
				10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0			4.8	-9.5	-14.3	100.0	28.6	85.7	76.2	
Monthly Mean Water Temperatures (°F)			Low Flow Channel below the Fish Barrier Dam	60	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-6.2	-1.5
				63	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				60	All Years	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.8
				63	All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1	0.0	0.0	0.0	-1.3
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	0.0	-6.3
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.8	3.8	-5.0	-1.0
70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-1.4	6.3	0.0				
75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0			

**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
						All Years		Lower 25%	All Years	Lower 25%	All Years	Lower 25%	All Years	Lower 25%	All Years	Lower 25%	All Years	Lower 25%	All Years	Lower 25%
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0					
				10	10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0					
			Mouth of the Lower Feather River	10	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7					
				10	10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5					
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60		All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				63		All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				65		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	60		All Years	5.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0
				63		All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1	0.0	0.0	0.0	0.0
				65		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	0.0	0.0
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.8	0.0	0.0	0.0	0.0
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.0	0.0	0.0	0.0
				75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	60		All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
				63		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
				65		All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.2	0.0	0.0	0.0	0.0
				70		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	0.0
				75		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	0.0	0.0	0.0	0.0



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3						23.2	56.1
				10	10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5						85.7	76.2
			Mouth of the Lower Feather River	10	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2						19.5	35.4
				10	10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8						42.9	28.6
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years	0.0	0.0	-0.4	0.0	0.0	1.8	1.3						0.0	0.0
				56	56	All Years	0.9	-0.3	0.0	0.0	0.0	0.0	0.0						0.0	-9.2
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0
			Below the Thermalito Afterbay Outlet	52	52	All Years	0.0	-1.3	0.0	0.0	-0.1	-1.7	0.0						0.0	0.0
				56	56	All Years	-1.0	0.4	0.0	0.0	0.0	-1.1	-1.9						0.0	0.0
				70	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						6.3	0.0
			Mouth of the Lower Feather River	52	52	All Years	0.0	0.0	0.0	0.0	-0.3	0.0	0.0						0.0	0.0
				56	56	All Years	0.0	0.4	0.0	0.0	0.0	0.0	0.0						0.0	0.0
70	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0		
70	70			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	-2.5		
Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years				0.0	0.0	0.0	0.0	0.0						
				10	10	Lower 25%				0.0	0.0	0.0	0.0	0.0						
		Below the Thermalito Afterbay Outlet	10	10	All Years				-31.7	-9.8	2.4	-4.9	-7.3	-22.0						
			10	10	Lower 25%				-14.3	4.8	0.0	4.8	-9.5	-14.3						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years				-0.4	0.0	0.0	1.8	1.3	0.0					
				54	54	All Years				0.0	0.0	0.0	0.9	-0.2	0.0					
	57			57	All Years				0.0	0.0	0.0	0.0	0.0	1.3						
	60		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
	Below the Thermalito Afterbay Outlet	52	52	All Years				0.0	0.0	-0.1	-1.7	0.0	0.0							
		54	54	All Years				0.0	0.0	0.0	2.5	0.0	0.0							
57		57	All Years				0.0	0.0	0.0	-0.9	-1.3	0.0								
60		60	All Years				0.0	0.0	0.0	0.0	-1.3	0.0								
December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek	10	10	All Years				46.3	9.8	-2.4	15.9	23.2							
Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		Below the Thermalito Afterbay Outlet	10	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1			
			10	10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2			
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				72	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	0.0	-6.3
				68	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.8	3.8	-5.0	-1.0	
				72	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-0.6	0.0	
75	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0				
Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			Below the Thermalito Afterbay Outlet	10	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0						
				10	10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3						
			Mouth of the Lower Feather River	10	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3						
				10	10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	52	All Years	0.0	0.0	-0.4	0.0	0.0	1.8	1.3	0.0						
				55	55	All Years	2.1	-1.3	0.0	0.0	0.0	0.3	0.0	0.4						
				59	59	All Years	-1.5	-0.3	0.0	0.0	0.0	0.0	0.0	0.0						
			Below the Thermalito Afterbay Outlet	52	52	All Years	0.0	-1.3	0.0	0.0	-0.1	-1.7	0.0	0.0						
				55	55	All Years	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0						
				59	59	All Years	5.6	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0					
			Mouth of the Lower Feather River	52	52	All Years	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0						
				55	55	All Years	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0						
59	59	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Feather River at Shanghai Bend	10	All Years	-50.0	-3.7	-24.4		3.7	-7.3	-2.4	-6.1	35.4	3.7	20.7	47.6	47.6	52.4
				10	Lower 25%	-28.6	-4.8	-14.3		0.0	-4.8	-19.0	23.8	14.3	47.6	47.6	52.4	52.4	52.4
			Mouth of the Lower Feather River	10	All Years	-39.0	0.0	-39.0		1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4	35.4	35.4
				10	Lower 25%	-4.8	4.8	0.0		9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6	28.6	28.6
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-1.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	1.2	-10.0	-0.5	0.0
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				61	All Years	1.4	0.0	0.0		0.0	0.0	1.0	-2.5	0.0	0.0	0.0	-0.6	-0.6	
			Mouth of the Lower Feather River	64	All Years	-0.4	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	-0.9	-0.9	
				68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.1	3.8	3.8	-5.0	-1.0	-1.0	
			Mouth of the Lower Feather River	61	All Years	3.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				64	All Years	0.6	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	68	All Years	0.0	0.0	0.0		0.0	0.0	0.6	-0.2	0.0	0.0	0.0	-9.4	-9.4				
	68	All Years	0.0	0.0	0.0		0.0	0.0	0.6	-0.2	0.0	0.0	0.0	0.0	0.0				
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years							-4.9	-7.3	-22.0	28.0	7.3	23.2		
				10	Lower 25%						4.8	-9.5	-14.3	100.0	28.6	85.7			
Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	68	All Years							0.0	0.0	0.1	3.8	3.8	-5.0				
		68	All Years							0.0	0.0	0.1	3.8	3.8	-5.0				
Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1		
				10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2		
			Mouth of the Lower Feather River	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4		
				10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6		
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	5.8	0.0	3.1	-2.5	
				66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	0.0	0.0	0.0	0.0				
	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	0.0	0.0	0.0	0.0				
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years									-22.0	28.0	7.3	23.2		
				10	Lower 25%									-14.3	100.0	28.6	85.7		
			Feather River at Shanghai Bend	10	All Years										-6.1	35.4	3.7	20.7	
				10	Lower 25%										-19.0	23.8	14.3	47.6	
			Mouth of the Lower Feather River	10	All Years										-7.3	31.7	4.9	19.5	
				10	Lower 25%										-28.6	9.5	19.0	42.9	
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years										-0.4	5.8	0.0	3.1	
				66	All Years										-1.3	0.0	0.0	0.0	
Mouth of the Lower Feather River	66	All Years											-1.3	0.0	0.0				
	66	All Years											-1.3	0.0	0.0				

White Sturgeon in the Lower Feather River

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration and Holding	November through May		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			10	Lower 25%		0.0		0.0	0.0	0.0	0.0	0.0	0.0							
			Feather River at Shanghai Bend	10	All Years			-3.7	-24.4	-2.4	3.7	-7.3	-2.4	-6.1						
				10	Lower 25%			-4.8	-14.3	4.8	0.0	0.0	-4.8	-19.0						
			Mouth of the Lower Feather River	10	All Years			0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3						
				10	Lower 25%		4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6							
		Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				Below the Thermalito Afterbay Outlet	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0							
				Mouth of the Feather River	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0							
Spawning and Egg Incubation	February through May	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam		10	All Years					0.0	0.0	0.0	0.0						
						10	Lower 25%				0.0	0.0	0.0	0.0						
						Feather River at Shanghai Bend*	10	All Years					3.7	-7.3	-2.4	-6.1				
							10	Lower 25%					0.0	0.0	-4.8	-19.0				
						Mouth of the Lower Feather River	10	All Years					1.2	-3.7	-1.2	-7.3				
						10	Lower 25%					9.5	0.0	-4.8	-28.6					
		Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	61	All Years					0.0	0.0	0.0	0.0							
				Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	1.0	-2.5						
				Mouth of the Feather River	61	All Years					0.0	0.0	0.0	0.0						
Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam		10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
						10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
						Feather River at Shanghai Bend	10	All Years	-50.0	-3.7	-24.4	-2.4	3.7	-7.3	-2.4	-6.1	35.4	3.7	20.7	47.6
							10	Lower 25%	-28.6	-4.8	-14.3	4.8	0.0	0.0	-4.8	-19.0	23.8	14.3	47.6	52.4
						Mouth of the Feather River	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4
						10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6	
				Monthly mean water temperatures (°F)	Below the Fish Barrier Dam	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
						Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	5.8	0.0	3.1	-2.5
						Mouth of the Feather River	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	0.0	0.0	0.0

**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration	January through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Mouth of the Lower Feather River	10	10	All Years	-9.8	2.4	-4.9	-7.3	-22.0	28.0								
				10	10	Lower 25%	4.8	0.0	4.8	-9.5	-14.3	100.0								
				10	10	All Years	-2.4	1.2	-3.7	-1.2	-7.3	31.7								
				10	10	Lower 25%	-4.8	9.5	0.0	-4.8	-28.6	9.5								
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	10	All Years	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2						
				10	10	Lower 25%	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7						
					Mouth of the Lower Feather River	10	10	All Years	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5				
						10	10	Lower 25%	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9				
				Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years					-1.7	-3.8	-1.3	0.0	0.0	0.0	0.0	-2.4
			Below the Thermalito Afterbay Outlet	50-64		All Years					0.0	-1.3	-0.5	0.0	1.3	-1.4	0.0	0.0		
			Mouth of the Lower Feather River	50-64		All Years					0.0	-3.8	0.0	-1.3	0.0	0.0	0.0	0.0		
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1		
				10	10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2		
					Mouth of the Lower Feather River	10	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4
						10	10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6
				Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					Below the Thermalito Afterbay Outlet	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-0.6	0.0
			Mouth of the Lower Feather River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.5	-1.3	-3.8	-3.1		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0				56.1	
				10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0				76.2	
			Mouth of the Lower Feather River	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7				35.4	
				10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5				28.6	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years					2.4	-4.9	-7.3	-22.0	28.0	7.3				
				10	Lower 25%					0.0	4.8	-9.5	-14.3	100.0	28.6				
		Mouth of the Lower Feather River	10	All Years					1.2	-3.7	-1.2	-7.3	31.7	4.9					
			10	Lower 25%					9.5	0.0	-4.8	-28.6	9.5	19.0					
		Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>	All Years					-3.8	-1.3	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	50-64	All Years					-1.3	-0.5	0.0	1.3	-1.4	0.0				
			Mouth of the Lower Feather River	50-64	All Years					-3.8	0.0	-1.3	0.0	0.0	0.0				
		Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10				Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Below the Thermalito Afterbay Outlet	10				All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1		
	10				Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2		
Mouth of the Lower Feather River	10				All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4		
	10				Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6		
Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Below the Thermalito Afterbay Outlet			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-0.6	0.0		
	Mouth of the Lower Feather River			72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.5	-1.3	-3.8	-3.1	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10		All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1		
				10		Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2		
					Mouth of the Lower Feather River	10		All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4
						10		Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0	0.0	0.0	-6.3
Mouth of the Lower Feather River	65-82			All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years								0.0	0.0	0.0				
				10		Lower 25%								0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10		All Years								-7.3	-22.0	28.0				
				10		Lower 25%								-9.5	-14.3	100.0				
					Mouth of the Lower Feather River	10		All Years							-1.2	-7.3	31.7			
						10		Lower 25%							-4.8	-28.6	9.5			
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	59-64		All Years									0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	59-64		All Years									-0.1	1.3	-1.4			
Mouth of the Lower Feather River	59-64			All Years									-1.3	0.0	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adults and Other Lifestages	Year-round		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	Lower 25%	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1			
			Mouth of the Lower Feather River	10	All Years	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2			
				10	Lower 25%	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4			
				10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6			
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Mouth of the Lower Feather River	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years							0.0	0.0	0.0	0.0					
				10	Lower 25%								0.0	0.0	0.0	0.0				
				10	All Years									-4.9	-7.3	-22.0	28.0			
				10	Lower 25%									4.8	-9.5	-14.3	100.0			
				10	All Years									-3.7	-1.2	-7.3	31.7			
					Mouth of the Lower Feather River	10	Lower 25%							0.0	-4.8	-28.6	9.5			
				Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years							0.0	0.0	0.0	0.0			
					Below the Thermalito Afterbay Outlet	60	All Years							0.0	-1.3	0.0	0.0			
					Mouth of the Lower Feather River	60	All Years							0.0	1.3	0.0	0.0			

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						1.2	-3.7	-1.2	-7.3				
					10	Lower 25%						9.5	0.0	-4.8	-28.6				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-7.3	-22.0	28.0				
					10	Lower 25%								-9.5	-14.3	100.0				
			Mouth of the Feather River		10	All Years									-1.2	-7.3	31.7			
					10	Lower 25%									-4.8	-28.6	9.5			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		59-68 <sup>1</sup>		All Years								-0.1	-0.1	-3.8			
					59-68		All Years								0.0	-0.6	0.2			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1		
					10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2		
			Mouth of the Feather River		10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4		
					10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		61-71		All Years	1.4	0.0	0.0	0.0	0.0	0.0	1.0	-2.5	-0.4	0.8	-5.0	-0.6	
					61-71		All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	2.5	2.9
	Mouth of the Feather River		61-71		All Years															

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition														
			Description	Value	%	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-7.3	-22.0	28.0					
					10	Lower 25%								-9.5	-14.3	100.0					
			Mouth of the Feather River		10	All Years									-1.2	-7.3	31.7				
					10	Lower 25%									-4.8	-28.6	9.5				
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years								-1.3	0.0	1.7				
					60-70		All Years								1.3	0.0	3.8				
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-53.7	-14.6									7.3	23.2	56.1		
					10	Lower 25%	-28.6	-14.3										28.6	85.7	76.2	
			Mouth of the Feather River		10	All Years	-39.0	0.0											4.9	19.5	35.4
					10	Lower 25%	-4.8	4.8											19.0	42.9	28.6
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	0.2	0.0										0.0	0.0	-1.3
					63-77		All Years	0.0	0.0										-0.2	0.6	-0.6

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1	
				10	Lower 25%	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2	
			Mouth of the Feather River	10	All Years	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4	
				10	Lower 25%	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6	
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	-0.1	0.0	0.0				
			Mouth of the Feather River	59-75		All Years						0.0	0.0	0.0	1.5			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to No Action Alternative Condition Feather River**

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**Spring-run Chinook Salmon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Smolt Emigration	October through June	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5							
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5							
			Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9							
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0							
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	60	All Years	1.9	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0						
				63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1						
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3						
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.5						
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5						
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Mouth of the Lower Feather River	60	All Years	3.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0						
				63	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				65	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.2					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5					
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8					



**Steelhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	August through April	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0			
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1							-4.9	40.2	
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5							42.9	66.7	
			Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2							4.9	29.3	
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8							33.3	28.6	
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	0.0	-0.6	0.0	0.0	1.7	1.3							0.0	0.0	
				56	All Years	-0.3	-1.0	0.0	0.0	0.0	0.0	0.0							0.0	-6.7	
			Below the Thermalito Afterbay Outlet	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0	
				52	All Years	0.0	-1.3	0.0	0.0	-0.1	-1.7	0.0							0.0	0.0	
			Mouth of the Lower Feather River	56	All Years	-1.0	0.4	0.0	0.0	0.0	-0.9	-0.6							0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							3.8	0.0	
			Below the Thermalito Afterbay Outlet	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0						0.0	0.0	
				56	All Years	0.0	0.2	0.0	0.0	0.0	-1.3	0.0							0.0	0.0	
			Mouth of the Lower Feather River	56	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0.0	
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							1.3	-3.1	
			Adult Spawning and Embryo Incubation	December through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years				0.0	0.0	0.0	0.0	0.0	0.0				
							10	Lower 25%				0.0	0.0	0.0	0.0	0.0	0.0				
Below the Thermalito Afterbay Outlet	10	All Years						-34.1	-6.1	15.9	1.2	-6.1	-25.6								
	10	Lower 25%						-9.5	-4.8	4.8	4.8	-9.5	-14.3								
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52			All Years				-0.6	0.0	0.0	1.7	1.3	0.0							
		54			All Years				0.0	0.0	0.0	0.8	-0.2	0.0							
	Below the Thermalito Afterbay Outlet	57		All Years				0.0	0.0	0.0	0.0	0.0	0.0								
		60		All Years				0.0	0.0	0.0	0.0	0.0	0.0								
	Mouth of the Lower Feather River	52		All Years				0.0	0.0	-0.1	-1.7	0.0	0.0								
		54		All Years				0.0	0.0	0.0	1.3	0.0	0.0								
December through April	Scaled composite weighted usable area (WUA) (% of Max)	Thermalito Afterbay Outlet to Honcut Creek		10	All Years				43.9	11.0	-13.4	-19.5	23.2								
				Juvenile Rearing and Emigration	Year-round	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Lower 25%	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Below the Thermalito Afterbay Outlet	10	All Years	-47.6				-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2				
	10	Lower 25%	-33.3				-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7				
Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	65	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		68	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Below the Thermalito Afterbay Outlet	72	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Mouth of the Lower Feather River	65	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3	0.0	0.0	0.0	-2.5		
		68	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.5	3.8	-8.0	-1.1			
Mouth of the Lower Feather River	72	All Years	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	-1.2		
	75	All Years	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0		
Smolt Emigration	October through May	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam			10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
						10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Below the Thermalito Afterbay Outlet			10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6						
						10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3						
			Mouth of the Lower Feather River			10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9						
						10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8						
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	52	All Years	0.0	0.0	-0.6	0.0	0.0	1.7	1.3	0.0								
				55	All Years	1.3	-2.2	0.0	0.0	0.0	0.2	0.0	0.4								
			Below the Thermalito Afterbay Outlet	59	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
				52	All Years	0.0	-1.3	0.0	0.0	-0.1	-1.7	0.0	0.0								
			Mouth of the Lower Feather River	55	All Years	0.0	-2.5	0.0	0.0	0.0	0.0	0.0	0.0								
				59	All Years	1.9	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0							
			Below the Thermalito Afterbay Outlet	52	All Years	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0								
				55	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.0	0.0							
			Mouth of the Lower Feather River	52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
				59	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							

**Green Sturgeon in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	February through December	Monthly Mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10	Lower 25%	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Feather River at Shanghai Bend	10	All Years	-39.0	-1.2	-30.5		11.0	-3.7	-2.4	-13.4	2.4	6.1	-2.4	32.9			
				10	Lower 25%	-23.8	-4.8	-14.3		0.0	0.0	-4.8	-33.3	4.8	23.8	28.6	38.1			
			Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0		2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3			
				10	Lower 25%	-4.8	4.8	-9.5		0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6			
		Monthly Mean Water Temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	3.8	-10.5	0.0		
				64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-0.5	2.8	0.0		
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				61	All Years	1.3	0.0	0.0		0.0	0.0	1.0	-2.5	0.0	0.0	0.0	1.9			
			Mouth of the Lower Feather River	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	4.1			
				68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-0.1	2.5	3.8	-8.0	-1.1			
			Mouth of the Lower Feather River	61	All Years	3.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				64	All Years	-0.1	0.0	0.0		0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning and Embryo Incubation	March through August	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years						1.2	-6.1	-25.6	19.5	9.8	-4.9				
				10	Lower 25%						4.8	-9.5	-14.3	90.5	38.1	42.9				
Juvenile Rearing	Year-round	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2			
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7			
			Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3			
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6		
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	4.6	0.0	3.1	-1.3		
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	0.0	0.0	0.0	0.0	0.0		
Juvenile Emigration	May through September	Monthly Mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years								-25.6	19.5	9.8	-4.9	40.2			
				10	Lower 25%								-14.3	90.5	38.1	42.9	66.7			
			Feather River at Shanghai Bend	10	All Years									-13.4	2.4	6.1	-2.4	32.9		
				10	Lower 25%									-33.3	4.8	23.8	28.6	38.1		
			Mouth of the Lower Feather River	10	All Years									-4.9	4.9	3.7	4.9	29.3		
				10	Lower 25%									-23.8	-19.0	14.3	33.3	28.6		
		Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years									-0.4	4.6	0.0	3.1	-1.3		
				66	All Years									-1.3	0.0	0.0	0.0	0.0		



**Pacific Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	January through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years					-6.1	15.9	1.2	-6.1	-25.6	19.5				
				10	Lower 25%					-4.8	4.8	4.8	-9.5	-14.3	90.5				
			Mouth of the Lower Feather River	10	All Years					1.2	2.4	3.7	-1.2	-4.9	4.9				
				10	Lower 25%					4.8	0.0	19.0	-4.8	-23.8	-19.0				
Adult Spawning and Egg Incubation	January through August	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years					-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9		
				10	Lower 25%					-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9		
			Mouth of the Lower Feather River	10	All Years					1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9		
						10	Lower 25%				4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>		All Years					-1.3	-3.8	-2.5	0.0	0.0	0.0	0.5	-2.8	
			Below the Thermalito Afterbay Outlet	50-64		All Years					0.0	-1.3	-0.3	0.0	1.3	-1.4	0.0	0.0	
				50-64		All Years					0.0	-2.5	0.0	-1.3	0.0	0.0	0.0	0.0	
Mouth of the Lower Feather River	50-64			All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2		
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7		
			Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3		
						10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	-1.2	0.0
				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mouth of the Lower Feather River	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-3.3	-0.6		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				Adult Immigration	September through June		Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5				40.2	
				10	10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5				66.7	
			Mouth of the Lower Feather River	10	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9				29.3	
				10	10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0				28.6	
Adult Spawning and Egg Incubation	February through July	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
				10	10	Lower 25%					0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Below the Thermalito Afterbay Outlet	10	10	All Years					15.9	1.2	-6.1	-25.6	19.5	9.8				
			10	10	Lower 25%					4.8	4.8	-9.5	-14.3	90.5	38.1					
		Mouth of the Lower Feather River	10	10	All Years					2.4	3.7	-1.2	-4.9	4.9	3.7					
			10	10	Lower 25%					0.0	19.0	-4.8	-23.8	-19.0	14.3					
	Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64 <sup>1</sup>			All Years					-3.8	-2.5	0.0	0.0	0.0	0.5				
		Below the Thermalito Afterbay Outlet	50-64			All Years					-1.3	-0.3	0.0	1.3	-1.4	0.0				
		Mouth of the Lower Feather River	50-64			All Years					-2.5	0.0	-1.3	0.0	0.0	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Below the Thermalito Afterbay Outlet	10	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2		
			10	10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7			
		Mouth of the Lower Feather River	10	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3			
			10	10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6			
	Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		Below the Thermalito Afterbay Outlet	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	-1.2	0.0		
		Mouth of the Lower Feather River	72			All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-3.3	-0.6		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
				Description	Value		%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Juveniles	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				10		Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below the Thermalito Afterbay Outlet	10		All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2		
				10		Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7		
						10		All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3
						10		Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6
		Monthly mean water temperatures (°F)	65-82 <sup>1</sup>		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
						65-82		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	1.3	0.0	0.0	-2.5
				65-82		All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4		
Adult Spawning	April through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10		All Years								0.0	0.0	0.0				
				10		Lower 25%								0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10		All Years								-6.1	-25.6	19.5				
				10		Lower 25%								-9.5	-14.3	90.5				
						10		All Years						-1.2	-4.9	4.9				
						10		Lower 25%						-4.8	-23.8	-19.0				
		Monthly mean water temperatures (°F)	59-64		All Years									0.0	0.0	0.0				
						59-64		All Years							-0.1	1.3	-1.4			
				59-64		All Years							-1.3	0.0	0.0					

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location Description	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
				Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				10	Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2		
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7		
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3		
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6		
			Low Flow Channel below the Fish Barrier Dam	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below the Thermalito Afterbay Outlet	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mouth of the Lower Feather River	86	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Adult Spawning	March through June	Monthly mean Flow (cfs)	Low Flow Channel below the Fish Barrier Dam	10	All Years							0.0	0.0	0.0	0.0				
				10	Lower 25%							0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	10	All Years							1.2	-6.1	-25.6	19.5				
				10	Lower 25%							4.8	-9.5	-14.3	90.5				
		Monthly mean water temperatures (°F)	Mouth of the Lower Feather River	10	All Years							3.7	-1.2	-4.9	4.9				
				10	Lower 25%							19.0	-4.8	-23.8	-19.0				
			Low Flow Channel below the Fish Barrier Dam	60	All Years							0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	60	All Years							0.0	-1.3	0.0	0.0				
	Mouth of the Lower Feather River	60	All Years							0.0	1.3	0.0	0.0						

**Splittail in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the Feather River		10	All Years						2.4	3.7	-1.2	-4.9				
					10	Lower 25%						0.0	19.0	-4.8	-23.8				
		Monthly mean water temperatures (°F)	Mouth of the Feather River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years															
				10	Lower 25%								-6.1	-25.6	19.5					
			Mouth of the Feather River	10	All Years															
				10	Lower 25%											-1.2	-4.9	4.9		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68 <sup>1</sup>	All Years															
				59-68	All Years											-0.1	0.1	-2.5		
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2			
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7			
			Mouth of the Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3			
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6			
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-2.5	-0.9	-0.8	-3.8	1.9		
				61-71	All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.3	4.2	
Mouth of the Feather River	Below the Thermalito Afterbay Outlet	61-71	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-2.5	-0.9	-0.8	-3.8	1.9				
		61-71	All Years	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.3	4.2			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value	%	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years								-6.1	-25.6	19.5					
					10	Lower 25%									-9.5	-14.3	90.5				
			Mouth of the Feather River		10	All Years										-1.2	-4.9	4.9			
					10	Lower 25%											-4.8	-23.8	-19.0		
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		60-70 <sup>1</sup>		All Years									-1.3	0.0	0.5			
					60-70		All Years										1.3	0.0	2.5		
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet		10	All Years	-47.6	-6.1									9.8	-4.9	40.2		
					10	Lower 25%	-33.3	-14.3										38.1	42.9	66.7	
			Mouth of the Feather River		10	All Years	-30.5	1.2											3.7	4.9	29.3
					10	Lower 25%	-4.8	4.8											14.3	33.3	28.6
		Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet		63-77		All Years	0.5	0.0										0.0	0.0	-0.8
					63-77		All Years	-0.6	0.0											-0.7	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower Feather River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative									
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Adults and Other Lifestages	Year-round	Monthly mean Flow (cfs)	Below the Thermalito Afterbay Outlet	10	All Years	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2
				10	Lower 25%	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7
			Mouth of the Feather River	10	All Years	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3
				10	Lower 25%	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6
Spawning	March through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75 <sup>1</sup>		All Years					0.0	-0.1	0.0	0.0			
			Mouth of the Feather River	59-75		All Years						0.0	0.0	0.0	0.8		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

# **No Action Alternative Compared to Existing Condition American River**

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**Spring-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River	10	All Years	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4								
				10	Lower 25%	-33.3	-14.3	4.8	-4.8	-28.6	-4.8								
		Monthly Mean Water Temperatures (°F)	Mouth of the American River	60	All Years	1.1	0.0	0.0	0.0	0.0	0.0	0.4							
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.9							
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.4							
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0							

**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-23.2	-12.2	-11.0										-36.6		
				10	Lower 25%	-33.3	-28.6	-23.8											0.0	
			Mouth of the American River	10	All Years	-29.3	-18.3	-11.0												-45.1
				10	Lower 25%	-47.6	-33.3	-14.3												-28.6
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	11.3	2.3	0.0											0.0	
				64	All Years	4.6	0.0	0.0											0.0	
				68	All Years	0.0	0.0	0.0											11.3	
			Mouth of the American River	60	All Years	8.8	1.1	0.0												0.0
				64	All Years	3.5	0.0	0.0												0.0
				68	All Years	0.0	0.0	0.0												9.4
Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-23.2	-12.2	-11.0												
				10	Lower 25%	-33.3	-28.6	-23.8												
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	1.3	0.0												
				58	All Years	7.5	1.3	0.0												
				60	All Years	11.3	2.3	0.0												
				62	All Years	2.7	0.0	0.0												
		Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years	-12.2	-2.4	-4.9											
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3									
				10	Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5									
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	1.3	0.0	0.0	0.0	1.2									
				58	All Years	7.5	1.3	0.0	0.0	0.0	1.3									
				60	All Years	11.3	2.3	0.0	0.0	0.0	0.0									
62	All Years	2.7	0.0	0.0	0.0	0.0	0.0													
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				-4.9	-4.9	-6.1	1.2	-6.1	-15.9						
				10	Lower 25%				0.0	4.8	-4.8	4.8	-4.8	-47.6						
			American River at Watt Avenue	10	All Years				-4.9	-4.9	-7.3	-1.2	-7.3	-17.1						
				10	Lower 25%				4.8	4.8	-9.5	0.0	-4.8	-47.6						
				10	All Years				-6.1	-7.3	-12.2	-2.4	-22.0	-37.8						
				10	Lower 25%				4.8	-4.8	-28.6	-4.8	-52.4	-61.9						
		American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	0.6	0.6	0.0							
			63	All Years				0.0	0.0	0.0	-2.3	2.5	0.6							
			65	All Years				0.0	0.0	0.0	0.0	-0.2	1.7							
			68	All Years				0.0	0.0	0.0	0.0	0.3	4.8							
			70	All Years				0.0	0.0	0.0	0.0	0.2	6.3							
			75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
			75	All Years				0.0	0.0	0.0	0.4	0.4	0.0							
		American River at Watt Avenue	60	All Years				0.0	0.0	0.0	0.0	1.3	2.5							
			63	All Years				0.0	0.0	0.0	0.0	-1.8	1.3	0.2						
			65	All Years				0.0	0.0	0.0	0.0	0.0	-0.9	4.4						
			68	All Years				0.0	0.0	0.0	0.0	0.0	0.4	2.0						
			70	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			75	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
			75	All Years				0.0	0.0	0.0	0.4	3.1	0.0							
		Mouth of the American River	60	All Years				0.0	0.0	0.0	0.0	-0.9	0.5	0.3						
			63	All Years				0.0	0.0	0.0	0.0	-1.4	0.9	0.7						
			65	All Years				0.0	0.0	0.0	0.0	1.1	5.5							
68	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0								
70	All Years					0.0	0.0	0.0	0.0	0.6	2.9									
75	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0								



**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years	-29.3	-18.3	-11.0		-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1	
		Monthly mean water temperatures (°F)		61		All Years	9.7	0.0	0.0		0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years							-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	
		Monthly mean water temperatures (°F)		68		All Years						0.0	0.0	1.1	5.5	10.0	6.3		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years	-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1	
		Monthly mean water temperatures (°F)		66		All Years	-47.6	-33.3	-14.3	-4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7	-28.6	
						All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	11.3	

**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-4.9	-4.9	-6.1	1.2	-6.1	-15.9						
					10	Lower 25%				0.0	4.8	-4.8	4.8	-4.8	-47.6							
			American River at Watt Avenue		10	All Years				-4.9	-4.9	-7.3	-1.2	-7.3	-17.1							
					10	Lower 25%				4.8	4.8	-9.5	0.0	-4.8	-47.6							
			Mouth of the American River		10	All Years				-6.1	-7.3	-12.2	-2.4	-22.0	-37.8							
					10	Lower 25%				4.8	-4.8	-28.6	-4.8	-52.4	-61.9							
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-4.9	-4.9	-6.1	1.2	-6.1	-15.9	-17.1	-39.0				
					10	Lower 25%				0.0	4.8	-4.8	4.8	-4.8	-47.6	-61.9	-71.4					
			American River at Watt Avenue		10	All Years				-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0					
					10	Lower 25%				4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4					
			Mouth of the American River		10	All Years				-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3					
					10	Lower 25%				4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7					
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					0.0	-2.8	0.0	0.0	0.5	-6.3	0.0	0.0			
							Lower 25%					0.0	-0.4	0.0	1.3	-0.3	-0.4	0.0	0.0			
				American River at Watt Avenue	50-64		All Years					0.0	-0.6	0.0	0.2	-3.8	-1.9	0.0	0.0			
							Lower 25%															
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-22.0	-9.8	-11.0	-4.9	-4.9	-6.1	1.2	-6.1	-15.9	-17.1	-39.0	-36.6
					10	Lower 25%				-33.3	-23.8	-23.8	0.0	4.8	-4.8	4.8	-4.8	-47.6	-61.9	-71.4	0.0	
			American River at Watt Avenue		10	All Years				-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6	
					10	Lower 25%				-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0	
			Mouth of the American River		10	All Years				-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1	
					10	Lower 25%				-47.6	-33.3	-14.3	4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7	-28.6	
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years					0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.3	1.9	-0.1	
							Lower 25%															
				American River at Watt Avenue	72		All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.1	1.1	5.8	0.0
							Lower 25%															
Mouth of the American River	72		All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.0	2.5	8.1	0.0				
			Lower 25%																			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	September through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	-22.0	-9.8	-11.0	-4.9	-4.9	-6.1	1.2	-6.1	-15.9			-36.6
					10	Lower 25%	-33.3	-23.8	-23.8	0.0	4.8	-4.8	4.8	-4.8	-47.6			0.0
			American River at Watt Avenue		10	All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1			-36.6
					10	Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6			0.0
			Mouth of the American River		10	All Years	-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8			-45.1
					10	Lower 25%	-47.6	-33.3	-14.3	4.8	-4.8	-28.6	-4.8	-52.4	-61.9			-28.6
Adult Spawning and Egg Incubation	February through July	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-4.9	-6.1	1.2	-6.1	-15.9	-17.1		
					10	Lower 25%					4.8	-4.8	4.8	-4.8	-47.6	-61.9		
			American River at Watt Avenue		10	All Years					-4.9	-7.3	-1.2	-7.3	-17.1	-14.6		
					10	Lower 25%					4.8	-9.5	0.0	-4.8	-47.6	-57.1		
		Mouth of the American River		10	All Years					-7.3	-12.2	-2.4	-22.0	-37.8	-39.0			
				10	Lower 25%					-4.8	-28.6	-4.8	-52.4	-61.9	-95.2			
Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					-2.8	0.0	0.0	0.5	-6.3	0.0			
		American River at Watt Avenue	50-64		All Years					-0.4	0.0	1.3	-0.3	-0.4	0.0			
		Mouth of the American River	50-64		All Years					-0.6	0.0	0.2	-3.8	-1.9	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	-22.0	-9.8	-11.0	-4.9	-4.9	-6.1	1.2	-6.1	-15.9	-17.1	-39.0	-36.6
					10	Lower 25%	-33.3	-23.8	-23.8	0.0	4.8	-4.8	4.8	-4.8	-47.6	-61.9	-71.4	0.0
			American River at Watt Avenue		10	All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6
					10	Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0
		Mouth of the American River		10	All Years	-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1	
				10	Lower 25%	-47.6	-33.3	-14.3	4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7	-28.6	
Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.3	1.9	-0.1
		American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.1	1.1	5.8	0.0	
		Mouth of the American River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.0	2.5	8.1	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years		-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6
					10	Lower 25%		-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.5	0.0	0.0	3.8	
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								-1.2	-7.3	-17.1			
					10	Lower 25%								0.0	-4.8	-47.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years								1.3	1.0	-0.4			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6
				10	10	Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years						-7.3	-1.2	-7.3	-17.1			
				10	10	Lower 25%						-9.5	0.0	-4.8	-47.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.0	0.4	0.4	0.0			

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						-7.3	-12.2	-2.4	-22.0				
			Mouth of the American River		10	Lower 25%							-4.8	-28.6	-4.8	-52.4			
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years							0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years									-1.2	-7.3	-17.1				
					10	Lower 25%										0.0	-4.8	-47.6			
		Mouth of the American River		10	All Years											-2.4	-22.0	-37.8			
				10	Lower 25%											-4.8	-52.4	-61.9			
Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		All Years										0.0	2.2	-4.4					
		Mouth of the American River	59-68		All Years									2.5	-0.9	-5.5					
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6			
					10	Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0			
		Mouth of the American River		10	All Years	-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1				
				10	Lower 25%	-47.6	-33.3	-14.3	4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7	-28.6				
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		All Years	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	-6.5	-4.0	-11.7	-0.1		
				Mouth of the American River	61-71		All Years	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.9	-8.8	-13.8	-1.4		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								-1.2	-7.3	-17.1						
					10	Lower 25%							0.0	-4.8	-47.6							
			Mouth of the American River		10	All Years									-2.4	-22.0	-37.8					
					10	Lower 25%									-4.8	-52.4	-61.9					
		Monthly mean water temperatures (°F)	American River at Watt Avenue		60-70 <sup>1</sup>		All Years								0.4	0.0	-2.0					
					60-70		All Years								0.4	2.5	-2.9					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-23.2	-12.2										-14.6	-39.0	-36.6		
					10	Lower 25%	-33.3	-28.6											-57.1	-71.4	0.0	
			Mouth of the American River		10	All Years	-29.3	-18.3												-39.0	-46.3	-45.1
					10	Lower 25%	-47.6	-33.3												-95.2	-85.7	-28.6
		Monthly mean water temperatures (°F)	American River at Watt Avenue		63-77		All Years	0.3	0.0											0.0	0.0	0.0
					63-77		All Years	0.2	0.0											-0.9	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under the No Action Alternative relative to the Existing Condition												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10		All Years	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6	
				10		Lower 25%	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0	
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years							0.1	0.0	1.3	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative A Compared to Existing Condition American River**

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**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-2.4	-17.1	-6.1										-23.2			
				10	Lower 25%	-9.5	-38.1	-28.6											61.9		
			Mouth of the American River	10	All Years	-8.5	-24.4	-7.3												-29.3	
				10	Lower 25%	-23.8	-52.4	-28.6												52.4	
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	8.1	2.3	0.0												0.0	
				64	All Years	3.9	0.0	0.0												0.0	
				68	All Years	0.0	0.0	0.0												8.8	
			Mouth of the American River	60	All Years	6.2	1.1	0.0													0.0
				64	All Years	3.2	0.0	0.0													0.0
				68	All Years	0.0	0.0	0.0													7.5
Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-2.4	-17.1	-6.1													
				10	Lower 25%	-9.5	-38.1	-28.6													
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	4.4	0.0													
				58	All Years	6.3	1.9	0.0													
				60	All Years	8.1	2.3	0.0													
				62	All Years	1.0	0.0	0.0													
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years	-12.3	27.8	-20.8														
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3										
				10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6										
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	4.4	0.0	0.0	0.0	0.0	1.2									
				58	All Years	6.3	1.9	0.0	0.0	0.0	0.0	2.5									
				60	All Years	8.1	2.3	0.0	0.0	0.0	0.0	0.2									
				62	All Years	1.0	0.0	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				-6.1	-3.7	-1.2	6.1	3.7	-26.8							
				10	Lower 25%				-23.8	4.8	-9.5	23.8	38.1	-19.0							
			American River at Watt Avenue	10	All Years				-6.1	-4.9	-7.3	4.9	1.2	-28.0							
				10	Lower 25%				-23.8	4.8	-28.6	19.0	33.3	-19.0							
				Mouth of the American River	10	All Years				-4.9	-7.3	-7.3	0.0	-4.9	-45.1						
					10	Lower 25%				-19.0	-9.5	-38.1	0.0	23.8	-28.6						
		Monthly Mean Water Temperatures (°F)	American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	-2.1	0.6	0.0							
				63	All Years				0.0	0.0	0.0	-1.9	0.0	0.6							
				65	All Years				0.0	0.0	0.0	0.0	-2.5	1.9							
				68	All Years				0.0	0.0	0.0	0.0	0.1	2.0							
				70	All Years				0.0	0.0	0.0	0.0	0.4	4.4							
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
			American River at Watt Avenue	60	All Years				0.0	0.0	0.2	1.7	0.4	0.0							
				63	All Years				0.0	0.0	0.0	-1.2	0.0	0.2							
				65	All Years				0.0	0.0	0.0	0.0	1.3	1.3							
				68	All Years				0.0	0.0	0.0	0.0	-0.9	8.1							
				70	All Years				0.0	0.0	0.0	0.0	0.5	1.0							
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
			Mouth of the American River	60	All Years				0.0	0.0	0.1	0.5	3.1	0.0							
				63	All Years				0.0	0.0	0.0	-1.6	0.3	0.3							
				65	All Years				0.0	0.0	0.0	-0.8	0.8	0.7							
				68	All Years				0.0	0.0	0.0	0.0	-0.9	8.0							
				70	All Years				0.0	0.0	0.0	0.0	0.8	4.2							
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							



**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	-8.5	-24.4	-7.3		-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3	
					10	Lower 25%	-23.8	-52.4	-28.6		-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4	
		Monthly mean water temperatures (°F)	Mouth of the American River	61		All Years	5.3	0.0	0.0		0.0	0.1	-1.3	0.6	0.0	0.0	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						-7.3	0.0	-4.9	-45.1	-74.4	-22.0		
					10	Lower 25%						-38.1	0.0	23.8	-28.6	-57.1	-38.1		
		Monthly mean water temperatures (°F)	Mouth of the American River	68		All Years						0.0	0.0	-0.9	8.0	17.5	8.8		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3	
					10	Lower 25%	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4	
		Monthly mean water temperatures (°F)	Mouth of the American River	66		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	1.9	0.0	0.0	8.8	

**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-6.1	-3.7	-1.2	6.1	3.7	-26.8					
					10	Lower 25%					-23.8	4.8	-9.5	23.8	38.1	-19.0					
			American River at Watt Avenue		10	All Years					-6.1	-4.9	-7.3	4.9	1.2	-28.0					
					10	Lower 25%					-23.8	4.8	-28.6	19.0	33.3	-19.0					
			Mouth of the American River		10	All Years					-4.9	-7.3	-7.3	0.0	-4.9	-45.1					
					10	Lower 25%					-19.0	-9.5	-38.1	0.0	23.8	-28.6					
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-6.1	-3.7	-1.2	6.1	3.7	-26.8	-73.2	-17.1			
					10	Lower 25%					-23.8	4.8	-9.5	23.8	38.1	-19.0	-57.1	-23.8			
			American River at Watt Avenue		10	All Years					-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1			
					10	Lower 25%					-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8			
			Mouth of the American River		10	All Years					-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0			
					10	Lower 25%					-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					0.0	-1.3	0.0	0.0	0.8	-6.3	0.0	0.0		
							All Years					0.0	0.8	0.0	2.5	-0.3	-0.4	0.0	0.0		
				American River at Watt Avenue	50-64		All Years					0.0	1.9	0.0	-0.2	-3.8	-0.6	0.0	0.0		
							All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	-3.7	-17.1	-7.3	-6.1	-3.7	-1.2	6.1	3.7	-26.8	-73.2	-17.1	-23.2			
					10	Lower 25%	-14.3	-38.1	-28.6	-23.8	4.8	-9.5	23.8	38.1	-19.0	-57.1	-23.8	57.1			
			American River at Watt Avenue		10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2			
					10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9			
			Mouth of the American River		10	All Years	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3			
					10	Lower 25%	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.2	0.1	-0.1	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.1	1.9	2.7	0.0	
				American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8	1.9	2.8	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				Mouth of the American River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	September through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	-3.7	-17.1	-7.3	-6.1	-3.7	-1.2	6.1	3.7	-26.8				-23.2		
					10	Lower 25%	-14.3	-38.1	-28.6	-23.8	4.8	-9.5	23.8	38.1	-19.0				57.1		
			American River at Watt Avenue		10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0					-23.2	
					10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0					61.9	
			Mouth of the American River		10	All Years	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1						-29.3
					10	Lower 25%	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6						52.4
Adult Spawning and Egg Incubation	February through July	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					-3.7	-1.2	6.1	3.7	-26.8	-73.2					
					10	Lower 25%					4.8	-9.5	23.8	38.1	-19.0	-57.1					
			American River at Watt Avenue		10	All Years					-4.9	-7.3	4.9	1.2	-28.0	-73.2					
					10	Lower 25%					4.8	-28.6	19.0	33.3	-19.0	-57.1					
		Mouth of the American River		10	All Years					-7.3	-7.3	0.0	-4.9	-45.1	-74.4						
				10	Lower 25%					-9.5	-38.1	0.0	23.8	-28.6	-57.1						
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					-1.3	0.0	0.0	0.8	-6.3	0.0				
				American River at Watt Avenue	50-64		All Years					0.8	0.0	2.5	-0.3	-0.4	0.0				
		Mouth of the American River	50-64		All Years					1.9	0.0	-0.2	-3.8	-0.6	0.0						
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	-3.7	-17.1	-7.3	-6.1	-3.7	-1.2	6.1	3.7	-26.8	-73.2	-17.1	-23.2			
					10	Lower 25%	-14.3	-38.1	-28.6	-23.8	4.8	-9.5	23.8	38.1	-19.0	-57.1	-23.8	57.1			
			American River at Watt Avenue		10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2			
					10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9			
			Mouth of the American River		10	All Years	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3			
					10	Lower 25%	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.2	0.1	-0.1		
				American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.1	1.9	2.7	0.0		
				Mouth of the American River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8	1.9	2.8	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue			10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2
						10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9
		Monthly mean water temperatures (°F)	American River at Watt Avenue		65-82 <sup>1</sup>		All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0	0.0	6.3
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue			10	All Years							4.9	1.2	-28.0			
						10	Lower 25%								19.0	33.3	-19.0		
		Monthly mean water temperatures (°F)	American River at Watt Avenue		59-64		All Years							2.5	1.0	-0.4			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2
					10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years						-7.3	4.9	1.2	-28.0			
					10	Lower 25%						-28.6	19.0	33.3	-19.0			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.2	1.7	0.4	0.0			

**Splittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years							-7.3	-7.3	0.0	-4.9				
					10	Lower 25%														
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years								0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years								4.9	1.2	-28.0				
				10	Lower 25%	19.0	33.3	-19.0											
			Mouth of the American River	10	All Years								0.0	-4.9	-45.1				
				10	Lower 25%								0.0	23.8	-28.6				
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		All Years								0.0	2.2	-8.1			
			Mouth of the American River	59-68		All Years								0.6	1.1	-8.0			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2		
				10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9		
			Mouth of the American River	10	All Years	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3		
				10	Lower 25%	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		All Years	4.4	0.0	0.0	0.0	0.0	0.0	-1.3	3.6	-4.0	-2.7	-4.5	0.2	
			Mouth of the American River	61-71		All Years	5.3	0.0	0.0	0.0	0.0	0.0	0.1	-1.3	0.4	-1.0	-10.6	-2.5	0.2

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								4.9	1.2	-28.0						
					10	Lower 25%								19.0	33.3	-19.0						
			Mouth of the American River		10	All Years									0.0	-4.9	-45.1					
					10	Lower 25%									0.0	23.8	-28.6					
		Monthly mean water temperatures (°F)	American River at Watt Avenue		60-70 <sup>1</sup>		All Years								1.7	-0.1	-1.0					
				Mouth of the American River		60-70		All Years							0.5	2.4	-4.2					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-2.4	-17.1										-73.2	-17.1	-23.2		
					10	Lower 25%	-9.5	-38.1											-57.1	-23.8	61.9	
			Mouth of the American River		10	All Years	-8.5	-24.4												-74.4	-22.0	-29.3
					10	Lower 25%	-23.8	-52.4												-57.1	-38.1	52.4
		Monthly mean water temperatures (°F)	American River at Watt Avenue		63-77		All Years	1.4	0.0										0.0	0.0	0.0	
				Mouth of the American River		63-77		All Years	0.8	0.0										0.6	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2	
					10	Lower 25%	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9	
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years							0.1	0.0	1.3	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

# **Alternative A Compared to No Action Alternative Condition American River**

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Spring-run Chinook Salmon in the Lower American River

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description		Value (°F)	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River		10	All Years			-2.4	14.6	3.7	3.7	8.5	6.1							
					10	Lower 25%			-14.3	9.5	-14.3	-4.8	0.0	14.3							
		Monthly Mean Water Temperatures (°F)	Mouth of the American River	60		All Years			0.0	0.0	0.0	0.0	0.0	0.1	0.1						
				63		All Years			0.0	0.0	0.0	0.0	0.0	-0.6							
				65		All Years			0.0	0.0	0.0	0.0	0.0	0.6							
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0							
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0							
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0							





**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	15.9	-2.4	14.6		3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0	
				10	Lower 25%	23.8	-14.3	9.5		-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9		
		Monthly mean water temperatures (°F)	Mouth of the American River	61		All Years	-4.4	0.0	0.0		0.0	0.1	-1.3	0.0	0.0	0.0	0.0	0.0	
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						8.5	6.1	17.1	1.2	-47.6	37.8		
				10	Lower 25%							0.0	14.3	66.7	47.6	14.3	76.2		
		Monthly mean water temperatures (°F)	Mouth of the American River	68		All Years						0.0	0.0	-2.1	2.5	7.5	2.5		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0	
				10	Lower 25%	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9		
		Monthly mean water temperatures (°F)	Mouth of the American River	66		All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	0.0	0.0	-2.5	

Pacific Lamprey in the Lower American River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative															
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep					
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						1.2	1.2	7.3	6.1	14.6	1.2						
					10	Lower 25%																	
			American River at Watt Avenue		10	All Years								1.2	2.4	6.1	6.1	14.6	3.7				
					10	Lower 25%																	
			Mouth of the American River		10	All Years									3.7	3.7	8.5	6.1	17.1	1.2			
					10	Lower 25%																	
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years							1.2	1.2	7.3	6.1	14.6	1.2	-43.9	34.1			
					10	Lower 25%																	
			American River at Watt Avenue		10	All Years									1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	
					10	Lower 25%																	
			Mouth of the American River		10	All Years										3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8
					10	Lower 25%																	
	Monthly mean water temperatures (°F)					50-64 <sup>1</sup>	All Years							0.0	1.6	0.0	0.0	0.3	0.0	0.0	0.0		
						50-64	All Years																
						50-64	All Years																
						50-64	All Years																
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	13.4	1.2	13.4	1.2	1.2	7.3	6.1	14.6	1.2	-43.9	34.1	26.8					
					10	Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	42.9	14.3	76.2	61.9					
			American River at Watt Avenue		10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0					
					10	Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9					
			Mouth of the American River		10	All Years	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0					
					10	Lower 25%	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9					
		Monthly mean water temperatures (°F)					72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-3.5	-1.8	0.0		
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	0.7	-3.1	0.0		
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	0.7	-3.1	0.0	
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-0.6	-5.3	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

River Lamprey in the Lower American River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	September through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	13.4	1.2	13.4	1.2	1.2	7.3	6.1	14.6	1.2				28.8		
						Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	42.9				61.9		
			American River at Watt Avenue		10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7				28.0		
						Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6				61.9		
			Mouth of the American River		10	All Years	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2				28.0		
						Lower 25%	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6				61.9		
Adult Spawning and Egg Incubation	February through July	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					1.2	7.3	6.1	14.6	1.2	-43.9					
						Lower 25%					-4.8	0.0	9.5	57.1	42.9	14.3					
			American River at Watt Avenue		10	All Years					2.4	6.1	6.1	14.6	3.7	-43.9					
						Lower 25%					-4.8	0.0	9.5	57.1	47.6	9.5					
			Mouth of the American River		10	All Years					3.7	8.5	6.1	17.1	1.2	-47.6					
						Lower 25%					-4.8	0.0	14.3	66.7	47.6	14.3					
		Monthly mean water temperatures (°F)				50-64 <sup>1</sup>		All Years					1.6	0.0	0.0	0.3	0.0	0.0			
								Lower 25%					1.3	0.0	1.3	0.0	0.0	0.0			
								All Years					2.5	0.0	-0.4	0.0	1.3	0.0			
								Lower 25%													
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	13.4	1.2	13.4	1.2	1.2	7.3	6.1	14.6	1.2	-43.9	34.1	28.8			
						Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	42.9	14.3	76.2	61.9			
			American River at Watt Avenue		10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0			
						Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9			
			Mouth of the American River		10	All Years	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0			
						Lower 25%	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9			
		Monthly mean water temperatures (°F)				72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-3.5	-1.8	0.0
								Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	0.7	-3.1	0.0
								All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-0.6	-5.3	0.0
								Lower 25%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0
					10	Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years							6.1	14.6	3.7			
					10	Lower 25%							9.5	57.1	47.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years								1.3	0.0	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

Sacramento-San Joaquin Roach in the Lower American River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0
				10	10	Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years						6.1	6.1	14.6	3.7			
				10	10	Lower 25%						0.0	9.5	57.1	47.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.2	1.3	0.0	0.0			

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						3.7	8.5	6.1	17.1				
					10	Lower 25%						-4.8	0.0	14.3	66.7				
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years							0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

Striped Bass in the Lower American River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								6.1	14.6	3.7				
					10	Lower 25%								9.5	57.1	47.6				
			Mouth of the American River		10	All Years									6.1	17.1	1.2			
					10	Lower 25%									14.3	66.7	47.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		All Years								0.0	0.0	-3.8				
				Mouth of the American River	59-68		All Years							-1.9	2.1	-2.5				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0		
					10	Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9		
			Mouth of the American River		10	All Years	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0		
					10	Lower 25%	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		All Years	-3.1	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	2.5	1.3	7.2	0.3		
				Mouth of the American River	61-71		All Years	-4.4	0.0	0.0	0.0	0.0	0.1	-1.3	0.0	0.9	-1.9	11.3	1.6	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

American Shad in the Lower American River

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years								6.1	14.6	3.7							
				10	Lower 25%								9.5	57.1	47.6							
			Mouth of the American River	10	All Years										6.1	17.1	1.2					
				10	Lower 25%										14.3	66.7	47.6					
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60-70 <sup>1</sup>	All Years										1.3	-0.1	1.0					
				60-70	All Years										0.1	-0.1	-1.3					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years	13.4	0.0											-43.9	36.6	28.0		
				10	Lower 25%	19.0	-4.8												9.5	76.2	61.9	
			Mouth of the American River	10	All Years	15.9	-2.4													-47.6	37.8	28.0
				10	Lower 25%	23.8	-14.3													14.3	76.2	61.9
		Monthly mean water temperatures (°F)	American River at Watt Avenue	63-77	All Years	1.1	0.0													0.0	0.0	0.0
				63-77	All Years	0.6	0.0													1.5	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10		All Years	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0
				10		Lower 25%	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years						0.0	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative B Compared to Existing Condition American River**

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**Spring-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition									
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River	10	All Years	-8.5	-2.4	-1.2	-7.3	-6.1	1.2						
				10	Lower 25%	-14.3	-9.5	-4.8	0.0	-19.0	4.8						
		Monthly Mean Water Temperatures (°F)	Mouth of the American River	60	All Years	2.3	0.0	0.0	0.0	0.0	-0.6	0.4					
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-1.3					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.8					
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					

**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition														
			Description	Value (°F)	%	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	1.2	-4.9	0.0										-59.8			
				10	Lower 25%	9.5	-4.8	-4.8											-4.8		
			Mouth of the American River	10	All Years	0.0	-8.5	-2.4												-65.9	
				10	Lower 25%	4.8	-14.3	-9.5												-19.0	
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	5.0	2.5	0.0												0.0	
				64	All Years	4.6	0.0	0.0												0.0	
				68	All Years	0.0	0.0	0.0												7.5	
			Mouth of the American River	60	All Years	6.2	2.3	0.0													0.0
				64	All Years	2.8	0.0	0.0													0.0
				68	All Years	0.0	0.0	0.0													7.5
Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	1.2	-4.9	0.0													
				10	Lower 25%	9.5	-4.8	-4.8													
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	6.3	0.0													
				58	All Years	3.8	2.5	0.0													
				60	All Years	5.0	2.5	0.0													
				62	All Years	1.0	0.0	0.0													
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years	0.0	32.9	-4.9														
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4										
				10	Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8										
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	6.3	0.0	0.0	0.0	1.2										
				58	All Years	3.8	2.5	0.0	0.0	0.0	3.8										
				60	All Years	5.0	2.5	0.0	0.0	0.0	0.0										
				62	All Years	1.0	0.0	0.0	0.0	0.0	0.0										
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				2.4	-4.9	-2.4	7.3	4.9	-32.9							
				10	Lower 25%				4.8	4.8	-4.8	28.6	33.3	-23.8							
			American River at Watt Avenue	10	All Years				2.4	-6.1	-2.4	7.3	2.4	-35.4							
				10	Lower 25%				4.8	4.8	-4.8	28.6	28.6	-23.8							
			Mouth of the American River	10	All Years				-1.2	-7.3	-6.1	1.2	0.0	-48.8							
				10	Lower 25%				-4.8	0.0	-19.0	4.8	23.8	-38.1							
		Monthly Mean Water Temperatures (°F)	American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	-5.0	0.6	0.0							
				63	All Years				0.0	0.0	0.0	-1.9	-2.5	0.6							
				65	All Years				0.0	0.0	0.0	0.0	-2.9	1.9							
				68	All Years				0.0	0.0	0.0	0.0	0.2	4.8							
				70	All Years				0.0	0.0	0.0	0.0	0.5	4.1							
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
			American River at Watt Avenue	60	All Years				0.0	0.0	0.0	1.3	0.4	0.0							
				63	All Years				0.0	0.0	0.0	0.0	-1.1	0.0	0.2						
				65	All Years				0.0	0.0	0.0	0.0	0.0	0.0	2.5						
				68	All Years				0.0	0.0	0.0	0.0	0.0	-1.1	5.6						
				70	All Years				0.0	0.0	0.0	0.0	0.9	3.1							
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				Mouth of the American River	60	All Years				0.0	0.0	-0.6	0.4	3.1	0.0						
					63	All Years				0.0	0.0	0.0	-1.3	0.3	0.3						
65	All Years					0.0	0.0	0.0	-0.8	0.8	0.7										
68	All Years					0.0	0.0	0.0	0.0	-0.9	9.2										
70	All Years					0.0	0.0	0.0	0.0	0.9	5.4										
75	All Years					0.0	0.0	0.0	0.0	0.0	0.0										



**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years	0.0	-8.5	-2.4		-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5	-65.9	
		Monthly mean water temperatures (°F)		61		All Years	4.1	0.0	0.0		0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years						-6.1	1.2	0.0	-48.8	-69.5	-30.5		
		Monthly mean water temperatures (°F)		68		All Years						0.0	0.0	-0.9	9.2	10.0	7.5		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River	10	10	All Years	0.0	-8.5	-2.4	-1.2	-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5	-65.9	
		Monthly mean water temperatures (°F)		66		All Years	1.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	2.5	0.0	0.0	11.3	

**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					2.4	-4.9	-2.4	7.3	4.9	-32.9					
					10	Lower 25%				4.8	4.8	-4.8	28.6	33.3	-23.8						
			American River at Watt Avenue		10	All Years				2.4	-6.1	-2.4	7.3	2.4	-35.4						
					10	Lower 25%				4.8	4.8	-4.8	28.6	28.6	-23.8						
			Mouth of the American River		10	All Years				-1.2	-7.3	-6.1	1.2	0.0	-48.8						
					10	Lower 25%				-4.8	0.0	-19.0	4.8	23.8	-38.1						
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					2.4	-4.9	-2.4	7.3	4.9	-32.9	-64.6	-24.4			
					10	Lower 25%				4.8	4.8	-4.8	28.6	33.3	-23.8	-81.0	-42.9				
			American River at Watt Avenue		10	All Years				2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0				
					10	Lower 25%				4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3				
			Mouth of the American River		10	All Years				-1.2	-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5				
					10	Lower 25%				-4.8	0.0	-19.0	4.8	23.8	-38.1	-76.2	-52.4				
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					0.0	-1.3	0.0	0.0	-0.1	-6.3	0.0	0.0		
							All Years					-0.1	-1.7	0.0	1.3	-0.1	-0.4	0.0	0.0		
				American River at Watt Avenue	50-64		All Years						-0.1	0.6	0.0	0.8	-3.8	-0.6	0.0	0.0	
							All Years														
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	1.2	-4.9	-1.2	2.4	-4.9	-2.4	7.3	4.9	-32.9	-64.6	-24.4	-57.3			
					10	Lower 25%	9.5	-9.5	-9.5	4.8	4.8	-4.8	28.6	33.3	-23.8	-81.0	-42.9	0.0			
			American River at Watt Avenue		10	All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8			
					10	Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8			
			Mouth of the American River		10	All Years	0.0	-8.5	-2.4	-1.2	-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5	-65.9			
					10	Lower 25%	4.8	-14.3	-9.5	-4.8	0.0	-19.0	4.8	23.8	-38.1	-76.2	-52.4	-19.0			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-1.2	1.0	-0.1		
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.1	2.5	2.9	0.0		
				American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	6.3	2.5	6.3	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	6.3	2.5	6.3	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8
					10	Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	6.3
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								7.3	2.4	-35.4		
					10	Lower 25%									28.6	28.6	-23.8	
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years									1.3	1.2	-0.4	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8		
				10	Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years						-2.4	7.3	2.4	-35.4					
				10	Lower 25%						-4.8	28.6	28.6	-23.8					
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.0	1.3	0.4	0.0				

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						-7.3	-6.1	1.2	0.0				
					10	Lower 25%					0.0	-19.0	4.8	23.8					
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								7.3	2.4	-35.4			
					10	Lower 25%								28.6	28.6	-23.8			
		Mouth of the American River		10	All Years									1.2	0.0	-48.8			
				10	Lower 25%									4.8	23.8	-38.1			
Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		All Years									0.0	2.4	-5.6				
		Mouth of the American River	59-68		All Years								1.9	1.1	-9.2				
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8	
					10	Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8	
		Mouth of the American River		10	All Years	0.0	-8.5	-2.4	-1.2	-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5	-65.9		
				10	Lower 25%	4.8	-14.3	-9.5	-4.8	0.0	-19.0	4.8	23.8	-38.1	-76.2	-52.4	-19.0		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		All Years	3.8	0.0	0.0	0.0	0.0	0.0	-3.8	3.6	-6.5	-2.7	-7.0	0.5	
				Mouth of the American River	61-71		All Years	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-3.5	-11.3	-6.3	0.5

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								7.3	2.4	-35.4						
					10	Lower 25%								28.6	28.6	-23.8						
			Mouth of the American River		10	All Years									1.2	0.0	-48.8					
					10	Lower 25%									4.8	23.8	-38.1					
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60-70 <sup>1</sup>		All Years									1.3	-0.5	-3.1					
				60-70		All Years									0.4	2.3	-5.4					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	1.2	-4.9										-68.3	-22.0	-59.8		
					10	Lower 25%	9.5	-4.8											-81.0	-33.3	-4.8	
			Mouth of the American River		10	All Years	0.0	-8.5												-69.5	-30.5	-65.9
					10	Lower 25%	4.8	-14.3												-76.2	-52.4	-19.0
		Monthly mean water temperatures (°F)	American River at Watt Avenue	63-77		All Years	2.8	0.0											0.0	0.0	0.0	
				63-77		All Years	2.7	0.0											0.2	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the Existing Condition												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10		All Years	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8	
				10		Lower 25%	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8	
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years													

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

# **Alternative B Compared to No Action Alternative Condition American River**

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**Spring-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description		Value (°F)	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River		10	All Years			13.4	15.9	6.1	1.2	6.1	7.3						
					10	Lower 25%		38.1	19.0	-4.8	0.0	9.5	19.0							
		Monthly Mean Water Temperatures (°F)	Mouth of the American River		60	All Years		1.3	0.0	0.0	0.0	0.0	-0.6	0.0						
					63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-0.4						
					65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.6						
					68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0						
					70	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0						
					75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0						

**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	30.5	13.4	18.3										-3.7		
				10	Lower 25%	47.6	33.3	28.6											14.3	
		Mouth of the American River	10	All Years	30.5	13.4	15.9												-9.8	
			10	Lower 25%	47.6	38.1	19.0												4.8	
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	-6.3	0.1	0.0												0.0
				64	All Years	0.0	0.0	0.0												0.0
	Mouth of the American River		60	All Years	0.0	0.0	0.0												-3.8	
			64	All Years	-2.5	1.3	0.0												0.0	
	Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	30.5	13.4	18.3											
					10	Lower 25%	47.6	33.3	28.6											
Monthly Mean Water Temperatures (°F)			American River at Watt Avenue	56	All Years	0.0	5.0	0.0												
				58	All Years	-3.8	1.3	0.0												
	Sailed Composite Weighted Usable Area (WUA) (% of Max)		Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)	60	All Years	-6.3	0.1	0.0												
				62	All Years	-1.7	0.0	0.0												
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	30.5	13.4	18.3	7.3	2.4	2.4									
				10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0									
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	5.0	0.0	0.0	0.0	0.0									
				58	All Years	-3.8	1.3	0.0	0.0	0.0	2.5									
			Mouth of the American River	60	All Years	-6.3	0.1	0.0	0.0	0.0	0.0									
				62	All Years	-1.7	0.0	0.0	0.0	0.0	0.0									
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				7.3	1.2	2.4	6.1	14.6	-2.4						
				10	Lower 25%				4.8	0.0	0.0	9.5	57.1	9.5						
			American River at Watt Avenue	10	All Years				7.3	2.4	2.4	7.3	15.9	-2.4						
				10	Lower 25%				4.8	0.0	0.0	14.3	57.1	9.5						
			Mouth of the American River	10	All Years				6.1	1.2	6.1	7.3	17.1	-4.9						
				10	Lower 25%				-4.8	0.0	9.5	19.0	61.9	4.8						
		Monthly Mean Water Temperatures (°F)	American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	-5.6	0.0	0.0						
				63	All Years				0.0	0.0	0.0	0.4	-5.0	0.0						
				65	All Years				0.0	0.0	0.0	0.0	-2.7	0.2						
				68	All Years				0.0	0.0	0.0	0.0	-0.1	0.0						
				70	All Years				0.0	0.0	0.0	0.0	0.3	-2.2						
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0						
	American River at Watt Avenue		60	All Years				0.0	0.0	0.0	0.8	0.0	0.0							
			63	All Years				0.0	0.0	0.0	0.7	-1.3	0.0							
			65	All Years				0.0	0.0	0.0	0.0	-1.3	0.0							
			68	All Years				0.0	0.0	0.0	0.0	-0.2	1.3							
			70	All Years				0.0	0.0	0.0	0.0	0.5	1.0							
			75	All Years				0.0	0.0	0.0	0.0	0.0	0.0							
	Mouth of the American River	60	All Years				0.0	0.0	-0.6	0.0	0.0	0.0								
		63	All Years				0.0	0.0	0.0	-0.4	-0.2	0.0								
		65	All Years				0.0	0.0	0.0	0.6	-0.1	0.0								
		68	All Years				0.0	0.0	0.0	0.0	-2.1	3.8								
		70	All Years				0.0	0.0	0.0	0.0	0.2	2.5								
		75	All Years				0.0	0.0	0.0	0.0	0.0	0.0								

**Steelhead in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative															
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep					
Adult Immigration and Holding	November through April	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					13.4	18.3	7.3	2.4	2.4	7.3								
				10	Lower 25%							33.3	28.6	4.8	0.0	0.0	14.3						
			Mouth of the American River	10	All Years							13.4	15.9	6.1	1.2	6.1	7.3						
				10	Lower 25%							38.1	19.0	-4.8	0.0	9.5	19.0						
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							-0.2	1.1	0.0	-1.3	0.0	0.0						
				56	All Years							5.0	0.0	0.0	0.0	0.0	0.0						
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0						
			Mouth of the American River	52	All Years							0.3	1.1	0.0	-0.2	0.0	0.0						
				56	All Years							5.6	0.0	0.0	0.0	-0.6	0.8						
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0						
Adult Spawning	January through April	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years							7.3	2.4	2.4	7.3								
				10	Lower 25%							4.8	0.0	0.0	14.3								
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	-1.3	0.0	0.0								
				54	All Years							0.0	0.0	-0.6	0.0								
				57	All Years							0.0	0.0	0.4	1.0								
				60	All Years							0.0	0.0	0.0	0.8								
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years						-17.1	23.2	6.1	12.2										
Embryo Incubation	January through May	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					7.3	2.4	2.4	7.3	15.9									
				10	Lower 25%							4.8	0.0	0.0	14.3	57.1							
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	-1.3	0.0	0.0	0.0							
				54	All Years							0.0	0.0	-0.6	0.0	0.0							
				57	All Years							0.0	0.0	0.4	1.0	0.0							
				60	All Years							0.0	0.0	0.0	0.8	0.0							
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release	10	All Years					26.8	13.4	17.1	7.3	1.2	2.4	6.1	14.6	-2.4	-29.3	18.3	-2.4		
				10	Lower 25%							42.9	33.3	28.6	4.8	0.0	0.0	9.5	57.1	9.5	71.4	14.3	
			American River at Watt Avenue	10	All Years							30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7
				10	Lower 25%							47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3
				10	All Years							30.5	13.4	15.9	6.1	-1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8
		Mouth of the American River	10	Lower 25%							47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8	
			American River at Nimbus Dam	65	All Years							0.6	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	0.2	0.0	0.0	2.5
				68	All Years							-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	7.5	-2.5	-3.1
				72	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-1.5	-0.9	0.0
				75	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.4	0.0
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65	All Years							0.9	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	2.5
				68	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	1.3	10.0	2.1	-3.8
				72	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	1.4	-2.9	0.0
			Mouth of the American River	75	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0
				75	All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0
		Smolt Emigration	January through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					7.3	2.4	2.4	7.3	15.9	-2.4						
						10	Lower 25%							4.8	0.0	0.0	14.3	57.1	9.5				
					Mouth of the American River	10	All Years							6.1	1.2	6.1	7.3	17.1	-4.9				
						10	Lower 25%							-4.8	0.0	9.5	19.0	61.9	4.8				
				Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	-1.3	0.0	0.0	0.0	0.0				
55	All Years											0.0	0.0	1.9	1.3	0.0	0.0						
Mouth of the American River	52				All Years							0.0	-0.2	0.0	0.0	0.0	0.0						
	55				All Years							0.0	0.0	1.3	0.0	0.0	0.0						

**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	30.5	13.4	15.9		1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8
					10	Lower 25%	47.6	38.1	19.0		0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8
		Monthly mean water temperatures (°F)	Mouth of the American River	61		All Years	-5.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						6.1	7.3	17.1	-4.9	-40.2	23.2	
					10	Lower 25%						9.5	19.0	61.9	4.8	-9.5	71.4	
		Monthly mean water temperatures (°F)	Mouth of the American River	68		All Years						0.0	0.0	-2.1	3.8	0.0	1.3	
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8
					10	Lower 25%	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8
		Monthly mean water temperatures (°F)	Mouth of the American River	66		All Years	1.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.0	0.0	0.0	0.0

**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						7.3	1.2	2.4	6.1	14.6	-2.4				
					10	Lower 25%						4.8	0.0	0.0	9.5	57.1	9.5				
			American River at Watt Avenue		10	All Years						7.3	2.4	2.4	7.3	15.9	-2.4				
					10	Lower 25%						4.8	0.0	0.0	14.3	57.1	9.5				
			Mouth of the American River		10	All Years						6.1	1.2	6.1	7.3	17.1	-4.9				
					10	Lower 25%						-4.8	0.0	9.5	19.0	61.9	4.8				
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						7.3	1.2	2.4	6.1	14.6	-2.4	-29.3	18.3		
					10	Lower 25%						4.8	0.0	0.0	9.5	57.1	9.5	9.5	71.4		
			American River at Watt Avenue		10	All Years						7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7		
					10	Lower 25%						4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4		
			Mouth of the American River		10	All Years						6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2		
					10	Lower 25%						-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4		
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					0.0	1.6	0.0	0.0	-0.6	0.0	0.0	0.0		
							All Years					-0.1	-1.3	0.0	0.0	0.2	0.0	0.0	0.0		
				American River at Watt Avenue	50-64		All Years						-0.1	1.3	0.0	0.5	0.0	1.3	0.0	0.0	
							All Years														
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	26.8	13.4	17.1	7.3	1.2	2.4	6.1	14.6	-2.4	-29.3	18.3	-2.4			
					10	Lower 25%	42.9	33.3	28.6	4.8	0.0	0.0	9.5	57.1	9.5	9.5	71.4	14.3			
			American River at Watt Avenue		10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7			
					10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3			
			Mouth of the American River		10	All Years	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8			
					10	Lower 25%	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-1.5	-0.9	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	1.4	-2.9	0.0	
				American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-1.9	0.0
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	September through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	26.8	13.4	17.1	7.3	1.2	2.4	6.1	14.6	-2.4				-2.4		
					10	Lower 25%	42.9	33.3	28.6	4.8	0.0	0.0	9.5	57.1	9.5				14.3		
			American River at Watt Avenue		10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4					-3.7	
					10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5					14.3	
			Mouth of the American River		10	All Years	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9						-9.8
					10	Lower 25%	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8						4.8
Adult Spawning and Egg Incubation	February through July	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						1.2	2.4	6.1	14.6	-2.4	-29.3				
					10	Lower 25%					0.0	0.0	9.5	57.1	9.5	9.5					
			American River at Watt Avenue		10	All Years					2.4	2.4	7.3	15.9	-2.4	-31.7					
					10	Lower 25%					0.0	0.0	14.3	57.1	9.5	4.8					
			Mouth of the American River		10	All Years					1.2	6.1	7.3	17.1	-4.9	-40.2					
					10	Lower 25%					0.0	9.5	19.0	61.9	4.8	-9.5					
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years					1.6	0.0	0.0	-0.6	0.0	0.0				
							All Years				-1.3	0.0	0.0	0.2	0.0	0.0					
				American River at Watt Avenue	50-64		All Years					1.3	0.0	0.5	0.0	1.3	0.0				
							All Years														
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	26.8	13.4	17.1	7.3	1.2	2.4	6.1	14.6	-2.4	-29.3	18.3	-2.4			
					10	Lower 25%	42.9	33.3	28.6	4.8	0.0	0.0	9.5	57.1	9.5	9.5	71.4	14.3			
			American River at Watt Avenue		10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7			
					10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3			
			Mouth of the American River		10	All Years	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8			
					10	Lower 25%	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-1.5	-0.9	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	1.4	-2.9	0.0	
				American River at Watt Avenue	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				Mouth of the American River	72		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-1.9	0.0	
							All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7
					10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years							7.3	15.9	-2.4			
					10	Lower 25%								14.3	57.1	9.5		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years								0.0	0.2	0.0		

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7
				10	10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years						2.4	7.3	15.9	-2.4			
				10	10	Lower 25%						0.0	14.3	57.1	9.5			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.0	0.8	0.0	0.0			

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						1.2	6.1	7.3	17.1				
					10	Lower 25%						0.0	9.5	19.0	61.9				
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								7.3	15.9	-2.4				
					10	Lower 25%										14.3	57.1	9.5		
		Mouth of the American River		10	All Years										7.3	17.1	-4.9			
				10	Lower 25%											19.0	61.9	4.8		
Monthly mean water temperatures (°F)	American River at Watt Avenue		59-68 <sup>1</sup>			All Years								0.0	0.2	-1.3				
		Mouth of the American River		59-68			All Years								-0.6	2.1	-3.8			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7		
					10	Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3		
		Mouth of the American River		10	All Years	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8			
				10	Lower 25%	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8			
		Monthly mean water temperatures (°F)	American River at Watt Avenue		61-71			All Years	-3.8	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	1.3	4.7	0.6
				Mouth of the American River		61-71			All Years	-5.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-2.5	7.5	1.9

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								7.3	15.9	-2.4						
					10	Lower 25%							14.3	57.1	9.5							
			Mouth of the American River		10	All Years								7.3	17.1	-4.9						
					10	Lower 25%								19.0	61.9	4.8						
		Monthly mean water temperatures (°F)	American River at Watt Avenue		60-70 <sup>1</sup>		All Years								0.8	-0.5	-1.0					
					60-70		All Years								0.0	-0.2	-2.5					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	30.5	13.4										-31.7	20.7	-3.7		
					10	Lower 25%	47.6	33.3										4.8	71.4	14.3		
			Mouth of the American River		10	All Years	30.5	13.4												-40.2	23.2	-9.8
					10	Lower 25%	47.6	38.1												-9.5	71.4	4.8
		Monthly mean water temperatures (°F)	American River at Watt Avenue		63-77		All Years	2.5	0.0											0.0	0.0	0.0
					63-77		All Years	2.5	0.0											1.1	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10		All Years	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7		
				10		Lower 25%	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3		
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years								-0.9	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

## **Alternative C Compared to Existing Condition American River**

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**Spring-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition												
			Description		Value (°F)	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River		10	All Years			-3.7	-1.2	-4.9	-6.1	-9.8	0.0						
					10	Lower 25%			-4.8	-4.8	9.5	9.5	-33.3	0.0						
		Monthly Mean Water Temperatures (°F)	Mouth of the American River	60		All Years			1.7	0.0	0.0	0.0	0.1	0.5						
				63		All Years			0.0	0.0	0.0	0.0	0.0	-2.8						
				65		All Years			0.0	0.0	0.0	0.0	0.0	-0.8						
				68		All Years			0.0	0.0	0.0	0.0	0.0	0.0						
				70		All Years			0.0	0.0	0.0	0.0	0.0	0.0						
				75		All Years			0.0	0.0	0.0	0.0	0.0	0.0						

**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition													
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-4.9	-2.4	-2.4										-32.9			
				10	Lower 25%	-19.0	-4.8	-9.5											-47.6		
			Mouth of the American River	10	All Years	-6.1	-3.7	-1.2												-39.0	
				10	Lower 25%	-23.8	-4.8	-4.8												33.3	
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	8.3	2.7	0.0												0.0	
				64	All Years	3.9	0.0	0.0												0.0	
				68	All Years	0.0	0.0	0.0												8.8	
			Mouth of the American River	60	All Years	6.3	1.7	0.0													0.0
				64	All Years	2.8	0.0	0.0													0.0
				68	All Years	0.0	0.0	0.0													7.1
Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-4.9	-2.4	-2.4													
				10	Lower 25%	-19.0	-4.8	-9.5													
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	6.3	0.0													
				58	All Years	6.3	1.3	0.0													
				60	All Years	8.3	2.7	0.0													
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years	-6.1	17.1	-3.7														
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	-4.9	-2.4	-2.4	-2.4	-4.9	-6.1										
				10	Lower 25%	-19.0	-4.8	-9.5	19.0	9.5	-19.0										
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	6.3	0.0	0.0	0.0	1.2										
				58	All Years	6.3	1.3	0.0	0.0	0.0	2.5										
				60	All Years	8.3	2.7	0.0	0.0	0.0	0.3										
62	All Years	0.9	0.0	0.0																	
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				-1.2	-2.4	-4.9	6.1	2.4	-34.1							
				10	Lower 25%				19.0	9.5	-14.3	23.8	38.1	-23.8							
			American River at Watt Avenue	10	All Years				-2.4	-4.9	-6.1	6.1	0.0	-35.4							
				10	Lower 25%				19.0	9.5	-19.0	23.8	33.3	-23.8							
			Mouth of the American River	10	All Years				-4.9	-6.1	-9.8	0.0	-7.3	-50.0							
				10	Lower 25%				9.5	9.5	-33.3	0.0	19.0	-33.3							
			Monthly Mean Water Temperatures (°F)	American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	-2.5	0.6	0.0						
					63	All Years				0.0	0.0	0.0	-1.9	0.0	0.6						
					65	All Years				0.0	0.0	0.0	0.0	-2.1	1.9						
					68	All Years				0.0	0.0	0.0	0.0	0.2	3.2						
		70			All Years				0.0	0.0	0.0	0.0	0.4	4.4							
		American River at Watt Avenue		60	All Years				0.0	0.0	0.0	0.3	1.7	0.4	0.0						
				63	All Years				0.0	0.0	0.0	-1.2	0.0	0.2							
				65	All Years				0.0	0.0	0.0	0.0	0.0	1.3	1.3						
				68	All Years				0.0	0.0	0.0	0.0	0.0	0.1	9.4						
				70	All Years				0.0	0.0	0.0	0.0	0.5	3.1							
		Mouth of the American River		60	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0						
				63	All Years				0.0	0.0	0.0	-2.8	0.0	0.3							
				65	All Years				0.0	0.0	0.0	-0.8	0.8	0.7							
				68	All Years				0.0	0.0	0.0	0.0	-0.9	9.9							
				70	All Years				0.0	0.0	0.0	0.0	0.8	5.4							
		75	All Years				0.0	0.0	0.0	0.0	0.0	0.0									



**Green Sturgeon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	February through December	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	-6.1	-3.7	-1.2		-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1	-39.0	
					10	Lower 25%	-23.8	-4.8	-4.8		9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6	33.3	
		Monthly mean water temperatures (°F)	Mouth of the American River	61		All Years	4.1	0.0	0.0		0.0	0.1	-0.6	0.6	0.0	0.0	0.0	0.0	
Adult Spawning and Egg Incubation	March through August	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						-9.8	0.0	-7.3	-50.0	-69.5	-34.1		
					10	Lower 25%						-33.3	0.0	19.0	-33.3	-57.1	-47.6		
		Monthly mean water temperatures (°F)	Mouth of the American River	68		All Years						0.0	0.0	-0.9	9.9	12.5	7.5		
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Mouth of the American River		10	All Years	-6.1	-3.7	-1.2	-4.9	-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1	-39.0	
					10	Lower 25%	-23.8	-4.8	-4.8	9.5	9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6	33.3	
		Monthly mean water temperatures (°F)	Mouth of the American River	66		All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	11.3	

**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition																		
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep								
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						-1.2	-2.4	-4.9	6.1	2.4	-34.1									
					10	Lower 25%						19.0	9.5	-14.3	23.8	38.1	-23.8									
			American River at Watt Avenue		10	All Years								-2.4	-4.9	-6.1	6.1	0.0	-35.4							
					10	Lower 25%									19.0	9.5	-19.0	23.8	33.3	-23.8						
			Mouth of the American River		10	All Years									-4.9	-6.1	-9.8	0.0	-7.3	-50.0						
					10	Lower 25%										9.5	9.5	-33.3	0.0	19.0	-33.3					
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years							-1.2	-2.4	-4.9	6.1	2.4	-34.1	-63.4	-28.0						
					10	Lower 25%										19.0	9.5	-14.3	23.8	38.1	-23.8	-42.9	-33.3			
			American River at Watt Avenue		10	All Years									-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5				
					10	Lower 25%										19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9			
			Mouth of the American River		10	All Years									-4.9	-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1				
					10	Lower 25%										9.5	9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6			
		Monthly mean water temperatures (°F)		Nimbus Dam Release	50-64 <sup>1</sup>		All Years							0.0	-1.3	0.0	0.0	-0.3	-6.3	0.0	0.0					
				American River at Watt Avenue	50-64		All Years								0.0	-0.4	0.0	2.5	-0.3	-0.4	0.0	0.0				
				Mouth of the American River	50-64		All Years								0.0	0.6	0.0	-0.2	-3.8	-0.6	0.0	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years							-4.9	-2.4	-2.4	-1.2	-2.4	-4.9	6.1	2.4	-34.1	-63.4	-28.0	-31.7		
					10	Lower 25%										19.0	9.5	-14.3	23.8	38.1	-23.8	-42.9	-33.3	47.6		
			American River at Watt Avenue		10	All Years									-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9
					10	Lower 25%										19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6		
			Mouth of the American River		10	All Years									-6.1	-3.7	-1.2	-4.9	-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1	-39.0
					10	Lower 25%										9.5	9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6	33.3		
		Monthly mean water temperatures (°F)		Nimbus Dam Release	72		All Years							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.5	1.0	-0.1		
				American River at Watt Avenue	72		All Years								0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.7	4.0	0.0	
				Mouth of the American River	72		All Years								0.0	0.0	0.0	0.0	0.0	0.2	3.8	3.1	5.2	0.0	0.0	

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years		-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9
					10	Lower 25%		-19.0	-4.8	-9.5	19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0	0.0	6.3	
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years							6.1	0.0	-35.4				
					10	Lower 25%							23.8	33.3	-23.8				
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years								2.5	1.0	-0.4			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years	-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9	
				10	10	Lower 25%	-19.0	-4.8	-9.5	19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6	
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years						-6.1	6.1	0.0	-35.4				
				10	10	Lower 25%						-19.0	23.8	33.3	-23.8				
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.3	1.7	0.4	0.0				

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						-6.1	-9.8	0.0	-7.3				
					10	Lower 25%					9.5	-33.3	0.0	19.0					
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years							6.1	0.0	-35.4				
					10	Lower 25%						23.8	33.3	-23.8					
		Mouth of the American River		10	All Years								0.0	-7.3	-50.0				
				10	Lower 25%								0.0	19.0	-33.3				
Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		10	All Years								0.0	1.1	-9.4				
				Mouth of the American River	59-68		All Years							1.3	1.1	-9.9			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9	
					10	Lower 25%	-19.0	-4.8	-9.5	19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6	
		Mouth of the American River		10	All Years	-6.1	-3.7	-1.2	-4.9	-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1	-39.0		
				10	Lower 25%	-23.8	-4.8	-4.8	9.5	9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6	33.3		
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		10	All Years	4.4	0.0	0.0	0.0	0.0	0.0	-1.3	3.5	-4.0	-4.0	-6.7	0.5
						Mouth of the American River	61-71		All Years	4.1	0.0	0.0	0.0	0.0	0.1	-0.6	0.4	-2.9	-8.1

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years	6.1	0.0	-35.4											
				10	Lower 25%	23.8	33.3	-23.8											
			Mouth of the American River	10	All Years	0.0	-7.3	-50.0											
				10	Lower 25%	0.0	19.0	-33.3											
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60-70 <sup>1</sup>	All Years	1.7	-0.1	-3.1											
				60-70	All Years	0.5	2.3	-5.4											
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years	-4.9	-2.4									-64.6	-30.5	-32.9	
				10	Lower 25%	-19.0	-4.8								-42.9	-42.9	47.6		
			Mouth of the American River	10	All Years	-6.1	-3.7										-69.5	-34.1	-39.0
				10	Lower 25%	-23.8	-4.8										-57.1	-47.6	33.3
		Monthly mean water temperatures (°F)	American River at Watt Avenue	63-77	All Years	1.0	0.0										0.0	0.0	0.0
				63-77	All Years	0.0	0.0										0.6	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the Existing Condition											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10		All Years	-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9
				10		Lower 25%	-19.0	-4.8	-9.5	19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years						0.1	0.0	1.3	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

# **Alternative C Compared to No Action Alternative Condition American River**

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**Spring-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description		Value (°F)	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Non-Natal Juvenile Rearing	November through April	Monthly Mean Flow (cfs)	Mouth of the American River		10	All Years		12.2	14.6	3.7	4.9	6.1	8.5						
					10	Lower 25%		28.6	9.5	9.5	9.5	0.0	19.0						
		Monthly Mean Water Temperatures (°F)	Mouth of the American River		60	All Years		0.6	0.0	0.0	0.0	0.0	0.1	0.1					
					63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-1.9					
					65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.6					
					68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0					
					70	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0					
					75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0					

**Fall-run Chinook Salmon in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration and Holding	September through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	20.7	8.5	13.4										23.2	
				10	Lower 25%	0.0	19.0	14.3										66.7	
			Mouth of the American River	10	All Years	17.1	12.2	14.6											20.7
				10	Lower 25%	-4.8	28.6	9.5											66.7
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	-2.9	0.3	0.0											0.0
				64	All Years	-0.6	0.0	0.0											0.0
				68	All Years	0.0	0.0	0.0											-2.5
			Mouth of the American River	60	All Years	-2.5	0.6	0.0											0.0
				64	All Years	-0.7	0.0	0.0											0.0
				68	All Years	0.0	0.0	0.0											-2.3
Adult Spawning	October through December	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	20.7	8.5	13.4											
				10	Lower 25%	0.0	19.0	14.3											
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	5.0	0.0											
				58	All Years	-1.3	0.0	0.0											
				60	All Years	-2.9	0.3	0.0											
				62	All Years	-1.8	0.0	0.0											
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years	4.9	8.5	8.5												
Embryo Incubation	October through March	Monthly Mean Flow (cfs)	American River at Watt Avenue	10	All Years	20.7	8.5	13.4	1.2	4.9	4.9								
				10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0								
		Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	56	All Years	0.0	5.0	0.0	0.0	0.0	0.0								
				58	All Years	-1.3	0.0	0.0	0.0	0.0	1.3								
				60	All Years	-2.9	0.3	0.0	0.0	0.0	0.3								
				62	All Years	-1.8	0.0	0.0	0.0	0.0	0.0								
Juvenile Rearing and Emigration	January through June	Monthly Mean Flow (cfs)	Nimbus Dam Release	10	All Years				0.0	2.4	4.9	8.5	14.6	-11.0					
				10	Lower 25%				4.8	9.5	0.0	14.3	57.1	28.6					
			American River at Watt Avenue	10	All Years				1.2	4.9	4.9	9.8	15.9	-13.4					
				10	Lower 25%				9.5	9.5	0.0	19.0	61.9	23.8					
				Mouth of the American River	10	All Years				3.7	4.9	6.1	8.5	18.3	-12.2				
					10	Lower 25%				9.5	9.5	0.0	19.0	71.4	28.6				
		Monthly Mean Water Temperatures (°F)	American River at Nimbus Dam	60	All Years				0.0	0.0	0.0	-3.1	0.0	0.0					
				63	All Years				0.0	0.0	0.0	0.4	-2.5	0.0					
				65	All Years				0.0	0.0	0.0	0.0	-1.8	0.2					
				68	All Years				0.0	0.0	0.0	0.0	-0.1	-1.6					
				70	All Years				0.0	0.0	0.0	0.0	0.2	-1.9					
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0					
			American River at Watt Avenue	60	All Years				0.0	0.0	0.3	1.3	0.0	0.0					
				63	All Years				0.0	0.0	0.0	0.6	-1.3	0.0					
				65	All Years				0.0	0.0	0.0	0.0	0.0	-1.3					
				68	All Years				0.0	0.0	0.0	0.0	0.0	1.1	5.0				
				70	All Years				0.0	0.0	0.0	0.0	0.1	1.0					
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of the American River	60	All Years				0.0	0.0	0.1	0.1	0.0	0.0					
				63	All Years				0.0	0.0	0.0	-1.9	-0.5	0.0					
				65	All Years				0.0	0.0	0.0	0.6	-0.1	0.0					
				68	All Years				0.0	0.0	0.0	0.0	-2.1	4.4					
				70	All Years				0.0	0.0	0.0	0.0	0.2	2.5					
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0					

**Steelhead in the Lower American River**

Lifestage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value (°F)	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Immigration and Holding	November through April	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					8.5	13.4	1.2	4.9	4.9	9.8							
				10	Lower 25%							19.0	14.3	9.5	9.5	0.0	19.0					
			Mouth of the American River	10	All Years							12.2	14.6	3.7	4.9	6.1	8.5					
				10	Lower 25%							28.6	9.5	9.5	9.5	0.0	19.0					
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							-0.4	1.1	0.0	0.4	0.0	0.0					
				56	All Years							5.0	0.0	0.0	0.0	0.0	0.0					
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0					
			Mouth of the American River	52	All Years							0.2	1.1	0.0	0.2	0.0	0.0					
				56	All Years							7.5	0.0	0.0	0.0	-0.6	0.8					
				70	All Years							0.0	0.0	0.0	0.0	0.0	0.0					
Adult Spawning	January through April	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years							1.2	4.9	4.9	9.8							
				10	Lower 25%							9.5	9.5	0.0	19.0							
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	0.4	0.0	0.0							
				54	All Years							0.0	0.0	0.6	0.0							
				57	All Years							0.0	0.0	1.8	0.2							
60	All Years							0.0	0.0	0.3	1.3											
Scaled Composite Weighted Usable Area (WUA) (% of Max)	Sailor Bar (RM 21.8) through Rossmoor (RM 17.3)		1	All Years						39.0	18.3	-15.9	4.9									
Embryo Incubation	January through May	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					1.2	4.9	4.9	9.8	15.9								
				10	Lower 25%							9.5	9.5	0.0	19.0	61.9						
		Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	0.4	0.0	0.0	0.0						
				54	All Years							0.0	0.0	0.6	0.0	0.0						
				57	All Years							0.0	0.0	1.8	0.2	0.0						
60	All Years							0.0	0.0	0.3	1.3	0.0										
Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release	10	All Years	19.5	8.5	12.2	0.0	2.4	4.9	8.5	14.6	14.6	-11.0	-31.7	12.2	24.4				
				10	Lower 25%	0.0	14.3	14.3	4.8	9.5	0.0	14.3	57.1	28.6	19.0	61.9	66.7					
			American River at Watt Avenue	10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2					
				10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7					
		Mouth of the American River	10	All Years	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2	20.7						
			10	Lower 25%	-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7	66.7						
		Monthly mean water temperatures (°F)	American River at Nimbus Dam	65	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	0.2	0.0	0.0	0.0				
				68	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.6	5.0	0.0	-2.5				
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-1.7	-0.9	0.0				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.4	0.0				
				65	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	2.5				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.0	14.4	8.3	-2.5				
			American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.6	-1.9	0.0				
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.0	0.0				
				65	All Years	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.1	0.0	0.0	0.0	0.4				
			Mouth of the American River	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	4.4	2.5	1.3	-2.3				
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.6	-2.9	0.0				
75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0						
75	All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Smolt Emigration	January through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	All Years					1.2	4.9	4.9	9.8	15.9	-13.4							
				10	Lower 25%							9.5	9.5	0.0	19.0	61.9	23.8					
			Mouth of the American River	10	All Years							3.7	4.9	6.1	8.5	18.3	-12.2					
		10		Lower 25%							9.5	9.5	0.0	19.0	71.4	28.6						
	Monthly mean water temperatures (°F)	American River at Watt Avenue	52	All Years							0.0	0.4	0.0	0.0	0.0	0.0						
			55	All Years							0.0	0.0	3.1	1.2	0.0	0.0						
		Mouth of the American River	52	All Years							0.0	0.2	0.0	0.0	0.0	0.0						
55	All Years								0.0	0.0	1.3	-0.2	0.0	0.0								



**Pacific Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Immigration	January through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					0.0	2.4	4.9	8.5	14.6	-11.0					
					10	Lower 25%				4.8	9.5	0.0	14.3	57.1	28.6						
			American River at Watt Avenue		10	All Years				1.2	4.9	4.9	9.8	15.9	-13.4						
					10	Lower 25%				9.5	9.5	0.0	19.0	61.9	23.8						
			Mouth of the American River		10	All Years				3.7	4.9	6.1	8.5	18.3	-12.2						
					10	Lower 25%				9.5	9.5	0.0	19.0	71.4	28.6						
Adult Spawning and Egg Incubation	January through August	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years					0.0	2.4	4.9	8.5	14.6	-11.0	-31.7	12.2			
					10	Lower 25%				4.8	9.5	0.0	14.3	57.1	28.6	19.0	61.9				
			American River at Watt Avenue		10	All Years				1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6				
					10	Lower 25%				9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7				
			Mouth of the American River		10	All Years				3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2				
					10	Lower 25%				9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7				
	Monthly mean water temperatures (°F)					50-64 <sup>1</sup>	All Years					0.0	1.6	0.0	0.0	-0.8	0.0	0.0	0.0		
						50-64	All Years				0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0			
						50-64	All Years				0.0	1.3	0.0	-0.4	0.0	1.3	0.0	0.0			
						50-64	All Years				0.0	1.3	0.0	-0.4	0.0	1.3	0.0	0.0			
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	19.5	8.5	12.2	0.0	2.4	4.9	8.5	14.6	-11.0	-31.7	12.2	24.4			
					10	Lower 25%	0.0	14.3	14.3	4.8	9.5	0.0	14.3	57.1	28.6	19.0	61.9	66.7			
			American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2			
					10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7			
			Mouth of the American River		10	All Years	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2	20.7			
					10	Lower 25%	-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7	66.7			
		Monthly mean water temperatures (°F)					72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-1.7	-0.9	0.0	
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.6	-1.9	0.0	
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.6	-1.9	0.0
							72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.6	-2.9	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**River Lamprey in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
			Description	Value	%	All Years		Lower 25%	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
									Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Immigration	September through June	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	19.5	8.5	12.2	0.0	2.4	4.9	8.5	14.6	-11.0				24.4		
							0.0	14.3	14.3	4.8	9.5	0.0	14.3	57.1	28.6			66.7			
			American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4					23.2	
							0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8			66.7			
			Mouth of the American River		10	All Years	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2						20.7
							-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6			66.7			
Adult Spawning and Egg Incubation	February through July	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years						2.4	4.9	8.5	14.6	-11.0	-31.7				
							10	Lower 25%					9.5	0.0	14.3	57.1	28.6	19.0			
			American River at Watt Avenue		10	All Years						4.9	4.9	9.8	15.9	-13.4	-32.9				
							10	Lower 25%					9.5	0.0	19.0	61.9	23.8	14.3			
			Mouth of the American River		10	All Years						4.9	6.1	8.5	18.3	-12.2	-36.6				
							10	Lower 25%					9.5	0.0	19.0	71.4	28.6	14.3			
	Monthly mean water temperatures (°F)		50-64 <sup>1</sup>		All Years						1.6	0.0	0.0	0.0	-0.8	0.0	0.0				
						50-64						0.0	0.0	1.3	0.0	0.0	0.0				
						50-64						1.3	0.0	-0.4	0.0	1.3	0.0				
Ammocoete Rearing and Emigration	Year-round	Monthly mean flow (cfs)	Nimbus Dam Release		10	All Years	19.5	8.5	12.2	0.0	2.4	4.9	8.5	14.6	-11.0	-31.7	12.2	24.4			
							0.0	14.3	14.3	4.8	9.5	0.0	14.3	57.1	28.6	19.0	61.9	66.7			
			American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2			
							0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7			
			Mouth of the American River		10	All Years	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2	20.7			
							-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7	66.7			
	Monthly mean water temperatures (°F)		72		All Years			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-1.7	-0.9	0.0		
						72						0.0	0.0	0.0	0.0	0.0	-1.9	0.6	-1.9	0.0	
						72						0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.6	-2.9	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Hardhead in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2
					10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7
		Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82 <sup>1</sup>		All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	2.5
Adult Spawning	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years							9.8	15.9	-13.4			
					10	Lower 25%							19.0	61.9	23.8			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64		All Years							1.3	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Sacramento-San Joaquin Roach in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative										
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2
				10	10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7
		Monthly mean water temperatures (°F)	American River at Watt Avenue	86		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Spawning	March through June	Monthly mean flow (cfs)	American River at Watt Avenue	10	10	All Years						4.9	9.8	15.9	-13.4			
				10	10	Lower 25%						0.0	19.0	61.9	23.8			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60		All Years						0.3	1.3	0.0	0.0			

**Spittail in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning	February through May	Monthly mean flow (cfs)	Mouth of the American River		10	All Years						4.9	6.1	8.5	18.3				
					10	Lower 25%						9.5	0.0	19.0	71.4				
		Monthly mean water temperatures (°F)	Mouth of the American River	45-75		All Years						0.0	0.0	0.0	0.0				

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Striped Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								9.6	15.9	-13.4			
					10	Lower 25%								19.0	61.9	23.8			
			Mouth of the American River		10	All Years								8.5	18.3	-12.2			
					10	Lower 25%								19.0	71.4	28.6			
		Monthly mean water temperatures (°F)	American River at Watt Avenue	59-68 <sup>1</sup>		All Years								0.0	-1.1	-5.0			
				59-68		All Years								-1.3	2.1	-4.4			
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2	
					10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7	
			Mouth of the American River		10	All Years	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2	20.7	
					10	Lower 25%	-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7	66.7	
		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71		All Years	-3.1	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	2.5	0.0	5.0	0.6	
				61-71		All Years	-5.6	0.0	0.0	0.0	0.0	0.1	-0.6	0.0	-0.9	0.6	9.4	1.9	
			Mouth of the American River			All Years													
						All Years													

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**American Shad in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative														
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Adult Spawning, Embryo Incubation, and Initial Rearing	April through June	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years								9.8	15.9	-13.4						
					10	Lower 25%								19.0	61.9	23.8						
			Mouth of the American River		10	All Years									8.5	18.3	-12.2					
					10	Lower 25%									19.0	71.4	28.6					
		Monthly mean water temperatures (°F)	American River at Watt Avenue	60-70 <sup>1</sup>		All Years									1.3	-0.1	-1.0					
				60-70		All Years									0.1	-0.2	-2.5					
Larvae, Fry, and Juvenile Rearing and Emigration	July through November	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	20.7	8.5										-32.9	14.6	23.2		
					10	Lower 25%	0.0	19.0											14.3	66.7	66.7	
			Mouth of the American River		10	All Years	17.1	12.2												-36.6	12.2	20.7
					10	Lower 25%	-4.8	28.6												14.3	66.7	66.7
		Monthly mean water temperatures (°F)	American River at Watt Avenue	63-77		All Years	0.7	0.0												0.0	0.0	0.0
				63-77		All Years	-0.2	0.0												1.5	0.0	0.0

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**Largemouth Bass in the Lower American River**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean flow (cfs)	American River at Watt Avenue		10	All Years	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2
					10	Lower 25%	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75 <sup>1</sup>		All Years						0.1	0.0	0.0	0.0			

<sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.

**No Action Alternative Compared to  
Existing Condition  
Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition										
			Description	Value	%	(Percent of Years)												
						Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years			0.0	0.0	0.0	0.0	0.2	-0.1				
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years			19.5	6.1	6.1	13.4	12.2	-2.4				
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			3.7	0.0	0.0							
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years					0.0	0.2	-0.1					
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						0.0	0.2	-0.1	-0.4			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years						3.3	0.0	-3.3	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years						0.0	0.0	0.0	1.2			
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								-0.1	-0.4	0.0		
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									11.0	-1.2	0.0	

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition											
			Description	Value	%	(Percent of Years)													
						Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				-3.7	3.7	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-3.3					
				< 0 cfs		Dry and Critical Water Years						3.3	3.3						
	January through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years				0.0	0.0	1.2	0.0	-3.7	2.4				
				< 75 Rkm		Dry and Critical Water Years				0.0	0.0	3.3	0.0	-6.7	3.3				



**Steelhead in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition											
			Description	Value	%	(Percent of Years)													
						Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	October through July	Mean Monthly Flow (cfs)	Rio Vista		10	All Years	-1.2	-1.2	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	-3.7			
		Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-2.4	1.2	19.5	6.1	6.1	13.4	12.2	-2.4	0.0	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years	3.7	0.0	4.9	7.3	1.2	0.0	0.0	0.0	1.2	3.7			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<2,500 cfs		All Years	0.0	0.0	1.2	0.0	1.2	0.0	0.0	1.2	1.2	0.0			

**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-2.4	1.2	19.5	6.1	6.1	13.4	12.2	-2.4	0.0	0.0	-2.4	-1.2	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition (Percent of Years)												
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass			10	All Years								12.2	-2.4	0.0			

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition											
			Description		Value	%		(Percent of Years)											
								Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass			10	All Years					6.1	13.4	12.2	-2.4				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass			10	All Years							12.2	-2.4	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition (Percent of Years)												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years								0.0	-3.7	2.4				

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years								-1.2	0.0	0.0			

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under the No Project/No Action Alternative relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	3.7	3.7	-3.7	-9.8	-7.3	0.0	-1.2	0.0	0.0	-1.2	1.2	1.2

## **Alternative A Compared to Existing Condition Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years			0.0	0.0	0.0	-0.1	0.3	0.3					
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years			-26.8	-35.4	-23.2	-29.3	0.0	-2.4					
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			3.7	0.0	0.0								
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years					0.0	-0.1	0.3	0.3					
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						-0.1	0.3	0.3	-0.4				
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years						0.0	0.0	-6.7	0.0				
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years						-20.7	0.0	-1.2	15.9				
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								0.3	-0.4	0.0			
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									15.9	-18.3	-50.0		

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				12.2	3.7	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-6.7					
				< 0 cfs		Dry and Critical Water Years						0.0	3.3						
	January through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years				-3.7	-1.2	-1.2	-2.4	-2.4	4.9				
				< 75 Rkm		Dry and Critical Water Years				-6.7	-3.3	0.0	-6.7	-3.3	3.3				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			3.7	0.0	0.0							

**Steelhead in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	October through July	Mean Monthly Flow (cfs)	Rio Vista		10	All Years	34.1	34.1	-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0	23.2			
		Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-7.3	11.0	-26.8	-35.4	-23.2	-29.3	0.0	-2.4	0.0	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years	9.8	-6.1	8.5	-9.8	-14.6	-20.7	0.0	-1.2	15.9	84.1			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<2,500 cfs		All Years	0.0	0.0	1.2	0.0	1.2	0.0	0.0	1.2	1.2	0.0			

**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-7.3	11.0	-26.8	-35.4	-23.2	-29.3	0.0	-2.4	0.0	0.0	-1.2	26.8	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								0.0	-2.4	0.0			

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years						-23.2	-29.3	0.0	-2.4				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								0.0	-2.4	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years								-2.4	-2.4	4.9			

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years								11.0	2.4	-4.9			

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	-34.1	-8.5	7.3	13.4	31.7	32.9	11.0	2.4	-4.9	-78.0	-91.5	-41.5

**Alternative A Compared to  
No Action Alternative Condition  
Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years				0.0	0.0	0.0	-0.1	0.1	0.4					
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years				-52.4	-37.8	-22.0	-50.0	-8.5	0.0					
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				0.0	0.0	0.0								
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years					0.0	-0.1	0.1	0.4						
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						-0.1	0.1	0.4	0.0					
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years							-3.3	0.0	-3.3	0.0				
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years							-17.1	0.0	-1.2	6.1				
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								0.4	0.0	0.0				
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									2.4	-18.3	-50.0			

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				15.9	0.0	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-3.3					
				< 0 cfs		Dry and Critical Water Years							-3.3	0.0					
	January through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years				-3.7	-1.2	-2.4	-2.4	1.2	2.4				
				< 75 Rkm		Dry and Critical Water Years				-6.7	-3.3	-3.3	-6.7	3.3	0.0				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs			All Years			0.0	0.0	0.0							



**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-3.7	13.4	-52.4	-37.8	-22.0	-50.0	-8.5	0.0	0.0	0.0	0.0	23.2	



**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years						-22.0	-50.0	-8.5	0.0				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								-8.5	0.0	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)															
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years									-2.4	1.2	2.4					

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm			All Years								7.3	0.0	-1.2				

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative A relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	-30.5	-2.4	11.0	31.7	40.2	34.1	7.3	0.0	-1.2	-67.1	-80.5	-35.4

## **Alternative B Compared to Existing Condition Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years				0.0	0.0	0.0	0.0	0.5	-2.2				
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years				-23.2	-17.1	-6.1	-48.8	-8.5	-4.9				
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				4.9	0.0	0.0							
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						0.0	0.5	-2.2					
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						0.0	0.5	-2.2	-0.4				
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years						3.3	0.0	-10.0	-3.3				
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years						-34.1	0.0	0.0	28.0				
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								-2.2	-0.4	0.0			
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									22.0	-15.9	-48.8		

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				17.1	4.9	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-10.0					
				< 0 cfs		Dry and Critical Water Years						-3.3	3.3						
	January through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years				1.2	-2.4	-2.4	-1.2	-1.2	4.9				
				< 75 Rkm		Dry and Critical Water Years				0.0	-6.7	-3.3	-3.3	-3.3	3.3				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				4.9	0.0	0.0							

**Steelhead in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	October through July	Mean Monthly Flow (cfs)	Rio Vista		10	All Years	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0			
		Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	4.9	7.3	-23.2	-17.1	-6.1	-48.8	-8.5	-4.9	0.0	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years	13.4	-4.9	17.1	12.2	-3.7	-34.1	0.0	0.0	28.0	80.5			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<2,500 cfs		All Years	0.0	0.0	1.2	0.0	1.2	0.0	0.0	1.2	1.2	0.0			

**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	4.9	7.3	-23.2	-17.1	-6.1	-48.8	-8.5	-4.9	0.0	0.0	-1.2	26.8	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								-8.5	-4.9	0.0			

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years						-6.1	-48.8	-8.5	-4.9				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								-8.5	-4.9	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years								-1.2	-1.2	4.9			

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years								15.9	6.1	-4.9			

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	-32.9	-9.8	-2.4	0.0	2.4	39.0	15.9	6.1	-4.9	-81.7	-87.8	-42.7

**Alternative B Compared to  
No Action Alternative Condition  
Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years			0.0	0.0	0.0	0.0	0.3	-2.1					
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years			-42.7	-23.2	-11.0	-73.2	-17.1	-2.4					
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			1.2	0.0	0.0								
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years				0.0	0.0	0.3	-2.1						
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years					0.0	0.3	-2.1	0.0					
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years					0.0	0.0	-6.7	-3.3					
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years					-35.4	0.0	-1.2	7.3					
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years							-2.1	0.0	0.0				
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years								3.7	-14.6	-48.8			

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				20.7	1.2	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-6.7					
				< 0 cfs		Dry and Critical Water Years							-6.7	0.0					
	January through June	Mean Monthly X2 (RKm)	X2	< 75 Rkm		All Years				1.2	-2.4	-3.7	-1.2	2.4	2.4				
				< 75 Rkm		Dry and Critical Water Years				0.0	-6.7	-6.7	-3.3	3.3	0.0				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs			All Years			1.2	0.0	0.0							



**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	7.3	13.4	-42.7	-23.2	-11.0	-73.2	-17.1	-2.4	0.0	0.0	0.0	23.2	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)														
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass			10	All Years								-17.1	-2.4	0.0					

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)												
			Description		Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass			10	All Years						-11.0	-73.2	-17.1	-2.4				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass			10	All Years								-17.1	-2.4	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)															
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years									-1.2	-2.4	2.4					

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years								12.2	1.2	-3.7			

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative B relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	-34.1	-8.5	6.1	15.9	15.9	41.5	12.2	1.2	-3.7	-72.0	-74.4	-39.0

## **Alternative C Compared to Existing Condition Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through May	Mean Monthly Water Temperature	Sacramento River at Freeport	59-68		All Years				0.0	0.0	0.0	0.1	0.3	0.3				
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years				-24.4	-23.2	-23.2	-34.1	-4.9	-3.7				
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				3.7	0.0	0.0							
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						0.0	0.1	0.3	0.3				
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years							0.1	0.3	0.3	-0.4			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years							3.3	0.0	-6.7	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years							-30.5	0.0	-1.2	22.0			
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								0.3	-0.4	0.0			
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									17.1	-15.9	-50.0		

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				17.1	3.7	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-6.7					
				< 0 cfs		Dry and Critical Water Years							-3.3	3.3					
	January through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years				-3.7	-2.4	-2.4	-2.4	-2.4	4.9				
				< 75 Rkm		Dry and Critical Water Years				-6.7	-6.7	-3.3	-6.7	-3.3	3.3				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			3.7	0.0	0.0							

**Steelhead in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	October through July	Mean Monthly Flow (cfs)	Rio Vista		10	All Years	45.1	62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8	45.1			
		Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-8.5	6.1	-24.4	-23.2	-23.2	-34.1	-4.9	-3.7	0.0	0.0			
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years	9.8	3.7	-3.7	-8.5	-14.6	-30.5	0.0	-1.2	22.0	85.4			
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<2,500 cfs		All Years	0.0	0.0	1.2	0.0	1.2	0.0	0.0	1.2	1.2	0.0			

**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-8.5	6.1	-24.4	-23.2	-23.2	-34.1	-4.9	-3.7	0.0	0.0	-1.2	26.8	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								-4.9	-3.7	0.0			

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years							-23.2	-34.1	-4.9	-3.7				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years									-4.9	-3.7	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years								-2.4	-2.4	4.9			

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)												
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years								17.1	3.7	-3.7			

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the Existing Condition (Percent of Years)											
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm		All Years	-36.6	-13.4	-1.2	17.1	26.8	39.0	17.1	3.7	-3.7	-75.6	-90.2	-53.7

**Alternative C Compared to  
No Action Alternative Condition  
Delta**

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**Delta Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years			0.0	0.0	0.0	0.0	0.1	0.4					
		Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years			-45.1	-30.5	-28.0	-58.5	-13.4	-1.2					
	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years			0.0	0.0	0.0								
Egg and Embryo	February through May	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years					0.0	0.0	0.1	0.4					
Larval	March through June	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years						0.0	0.1	0.4	0.0				
		Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1,500 cfs		Dry and Critical Water Years						0.0	0.0	-3.3	0.0				
		Mean Monthly Delta Outflow (cfs)	Delta		10	All Years						-30.5	0.0	-1.2	7.3				
Juvenile	May through July	Mean Monthly Water Temperature (°F)	Sacramento River at Freeport	59-68		All Years								0.4	0.0	0.0			
		Mean Monthly X2 (Rkm)	Changes in X2 between Rkm 65 and 80	0.5 Rkm		All Years									3.7	-19.5	-50.0		

**Longfin Smelt in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult	December through March	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs		All Years				20.7	0.0	0.0	0.0						
Larval and Juvenile	April and May	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-1500 cfs		Dry and Critical Water Years							0.0	-3.3					
				< 0 cfs		Dry and Critical Water Years							-6.7	0.0					
	January through June	Mean Monthly X2 (RKm)	X2	< 75 Rkm		All Years				-3.7	-2.4	-3.7	-2.4	1.2	2.4				
				< 75 Rkm		Dry and Critical Water Years				-6.7	-6.7	-6.7	-6.7	3.3	0.0				

**Fall-run and Late Fall-run Chinook Salmon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
San Joaquin River adult	December through February	Mean Monthly OMR Flow (cfs)	Old and Middle Rivers	<-5000 cfs			All Years			0.0	0.0	0.0							



**Green Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Juvenile rearing and emigration	Year-round	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years	-3.7	13.4	-45.1	-30.5	-28.0	-58.5	-13.4	-1.2	0.0	0.0	0.0	23.2	

**White Sturgeon in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)												
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Juvenile rearing and emigration	April through June	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years									-13.4	-1.2	0.0			

**Splittail in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spawning and Egg Incubation	February through May	Mean Monthly Flow (cfs)	Yolo Bypass		10	All Years						-28.0	-58.5	-13.4	-1.2				
Juvenile Rearing and Emigration	April through July	Mean Monthly flow (cfs)	Yolo Bypass		10	All Years								-13.4	-1.2	0.0	0.0		

**American Shad in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)															
			Description	Value	%		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	X2	< 75 Rkm		All Years									-2.4	1.2	2.4					

**Striped Bass in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)													
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Egg and Larval	April through June	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm			All Years								11.0	1.2	0.0				

**Warmwater Game Fishes in the Delta**

Life Stage	Evaluation Period	Impact Indicator	Location		Criteria		Range	Net Change in Probability of Occurrence under Alternative C relative to the No Project/No Action Alternative (Percent of Years)											
			Description	Value	%	Oct		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
All Life Stages	Year-round	Mean Monthly X2 (Rkm)	Changes in X2	1 Rkm			All Years	-34.1	-14.6	4.9	31.7	41.5	39.0	11.0	1.2	0.0	-72.0	-85.4	-47.6

## **Appendix 12F**

# **Fisheries Flow Summary Tables**

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# APPENDIX 12F

## Fisheries Flow Summary Tables

### 12F.1 Results

This appendix includes the results of the Fisheries Flow Summary Tables for the proposed Project action alternatives (alternatives) evaluated in the North-of-the-Delta Offstream Storage Draft Environmental Impact Report/Environmental Impact Statement (NODOS DEIR/EIS). The fisheries impact assessment and methodology is described in [Chapter 12 Aquatic Biological Resources](#) and in [Appendix 12B and 12C](#).

#### 12F.1.1 Introduction

The Fisheries Flow Summary Tables were developed to display the intermediate calculations to determine the net differences in exceedance of flow changes of 10 percent or more presented for the flow parameters displayed in [Appendix 12E](#). These tables were used to conduct more detailed fisheries impact assessment when needed.

The riverine environments evaluated include:

- Upper Trinity River
- Clear Creek
- Sacramento River
- Lower Feather River
- Lower American River

#### 12F.1.2 Methodology

These tables were used to identify the expected changes in flow resulting from implementation of an alternative, relative to a baseline<sup>1</sup> condition, by month, for:

- Percentage of time that flows increase or decrease by less than one percent
- Percentage of time that flows increase or decrease by one percent or more
- Percentage of time that flows increase or decrease by 10 percent or more

These calculations are provided for the entire distribution of flows (all years) and for the driest 25 percent of flows (flows that exceed a specified flow 75 percent of time or more).

#### 12F.1.3 Comparisons

For each river basin, a Fisheries Flow Summary Tables report is provided for each of the following seven comparisons:

- No Project/No Action Alternative compared to Existing Conditions
- Alternative A compared to Existing Conditions
- Alternative A compared to No Project/No Action Alternative
- Alternative B compared to Existing Conditions

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<sup>1</sup> For the purposes of comparison, the baseline includes both Existing Conditions and the No Project/No Action Alternative.

- Alternative B compared to No Project/No Action Alternative
- Alternative C compared to Existing Conditions
- Alternative C compared to No Project/No Action Alternative

**No Action Alternative Compared to  
Existing Condition  
Trinity River**

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## **Alternative A Compared to Existing Condition Trinity River**

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**Alternative A Compared to  
No Action Alternative Condition  
Trinity River**

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## **Alternative B Compared to Existing Condition Trinity River**

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**Alternative B Compared to  
No Action Alternative Condition  
Trinity River**

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## **Alternative C Compared to Existing Condition Trinity River**

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**Alternative C Compared to  
No Action Alternative Condition  
Trinity River**

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**No Action Alternative Compared to  
Existing Condition  
Clear Creek**

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The No Project/No Action Alternative relative to the Existing Condition  
Clear Creek below Whiskeytown Reservoir, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	95.1	93.9	92.7	95.1	95.1	92.7	95.1	93.9	97.6	100.0	100.0	98.8
X>=10.0	3.7	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2
X>0 (Total %)	3.7	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2
X<=-10.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	1.2	0.0	2.4	2.4	2.4	2.4	3.7	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	2.4	6.1	4.9	2.4	2.4	4.9	0.0	6.1	2.4	0.0	0.0	1.2
Net Change in 10% Exceedance	2.4	6.1	7.3	4.9	4.9	7.3	3.7	6.1	2.4	0.0	0.0	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	81.0	76.2	71.4	81.0	81.0	76.2	85.7	76.2	90.5	100.0	100.0	95.2
X>=10.0	14.3	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8
X>0 (Total %)	14.3	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8
X<=-10.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8
Net Change in 10% Exceedance	9.5	23.8	28.6	19.0	19.0	23.8	14.3	23.8	9.5	0.0	0.0	4.8

## **Alternative A Compared to Existing Condition Clear Creek**

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**NODOS Alternative A relative to the Existing Condition  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	95.1	93.9	91.5	95.1	95.1	93.9	95.1	93.9	97.6	86.6	98.8	98.8
X>=10.0	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	0.0	1.2
X>0 (Total %)	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	0.0	1.2
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
X<0 (Total %)	0.0	0.0	3.7	2.4	2.4	3.7	3.7	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	4.9	6.1	3.7	2.4	2.4	1.2	0.0	6.1	2.4	13.4	-1.2	1.2
Net Change in 10% Exceedance	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	13.4	-1.2	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	81.0	76.2	71.4	81.0	81.0	81.0	85.7	76.2	90.5	100.0	100.0	95.2
X>=10.0	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X>0 (Total %)	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
Net Change in 10% Exceedance	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8

## **Alternative A Compared to No Action Alternative Condition Clear Creek**

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**NODOS Alternative A relative to the No Project/No Action Alternative  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	98.8	100.0	98.8	100.0	100.0	97.6	100.0	100.0	100.0	86.6	98.8	100.0
X ≥ 10.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0
X > 0 (Total %)	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
X < 0 (Total %)	0.0	0.0	1.2	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	1.2	0.0	-1.2	0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2	0.0
Net Change in 10% Exceedance	1.2	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	13.4	-1.2	0.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	95.0	100.0	100.0	100.0	100.0	95.2	100.0	100.0	100.0	100.0	100.0	100.0
X ≥ 10.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in 10% Exceedance	4.8	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0

## **Alternative B Compared to Existing Condition Clear Creek**

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**NODOS Alternative B relative to the Existing Condition  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	95.1	93.9	91.5	95.1	95.1	93.9	95.1	93.9	97.6	95.1	98.8	98.8
X>=10.0	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	0.0	1.2
X>0 (Total %)	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	0.0	1.2
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
X<0 (Total %)	0.0	0.0	3.7	2.4	2.4	3.7	3.7	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	4.9	6.1	3.7	2.4	2.4	1.2	0.0	6.1	2.4	4.9	-1.2	1.2
Net Change in 10% Exceedance	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	4.9	-1.2	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	81.0	76.2	71.4	81.0	81.0	81.0	85.7	76.2	90.5	100.0	100.0	95.2
X>=10.0	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X>0 (Total %)	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
Net Change in 10% Exceedance	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8

## **Alternative B Compared to No Action Alternative Condition Clear Creek**

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**NODOS Alternative B relative to the No Project/No Action Alternative  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	97.6	100.0	98.8	100.0	100.0	97.6	100.0	100.0	100.0	95.1	98.8	100.0
X>=10.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0
X>0 (Total %)	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
X<0 (Total %)	0.0	0.0	1.2	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	2.4	0.0	-1.2	0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2	0.0
Net Change in 10% Exceedance	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	4.9	-1.2	0.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	90.5	100.0	100.0	100.0	100.0	95.2	100.0	100.0	100.0	100.0	100.0	100.0
X>=10.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in 10% Exceedance	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0

## **Alternative C Compared to Existing Condition Clear Creek**

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**NODOS Alternative C relative to the Existing Condition  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	95.1	93.9	91.5	95.1	95.1	93.9	95.1	93.9	97.6	90.2	98.8	98.8
X ≥ 10.0	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	0.0	1.2
X > 0 (Total %)	4.9	6.1	8.5	4.9	4.9	4.9	3.7	6.1	2.4	9.8	0.0	1.2
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
X < 0 (Total %)	0.0	0.0	2.4	2.4	2.4	3.7	3.7	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	4.9	6.1	6.1	2.4	2.4	1.2	0.0	6.1	2.4	9.8	-1.2	1.2
Net Change in 10% Exceedance	4.9	6.1	7.3	4.9	4.9	4.9	3.7	6.1	2.4	9.8	-1.2	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	81.0	76.2	71.4	81.0	81.0	81.0	85.7	76.2	90.5	100.0	100.0	95.2
X ≥ 10.0	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X > 0 (Total %)	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8
Net Change in 10% Exceedance	19.0	23.8	28.6	19.0	19.0	19.0	14.3	23.8	9.5	0.0	0.0	4.8

## **Alternative C Compared to No Action Alternative Condition Clear Creek**

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**NODOS Alternative C relative to the No Project/No Action Alternative  
Clear Creek below Whiskeytown Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	97.6	100.0	98.8	100.0	100.0	97.6	100.0	100.0	100.0	90.2	98.8	100.0
X>=10.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0
X>0 (Total %)	2.4	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
X<0 (Total %)	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	0.0
Net Change in % Exceedance:	2.4	0.0	1.2	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0
Net Change in 10% Exceedance	2.4	0.0	0.0	0.0	0.0	-2.4	0.0	0.0	0.0	9.8	-1.2	0.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	90.5	100.0	100.0	100.0	100.0	95.2	100.0	100.0	100.0	100.0	100.0	100.0
X>=10.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0
Net Change in 10% Exceedance	9.5	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0

# **No Action Alternative Compared to Existing Condition Sacramento River**

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The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River below Keswick Reservoir, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	37.8	15.9	29.3	67.1	63.4	73.2	35.4	68.3	48.8	30.5	50.0	23.2
X>=10.0	0.0	0.0	0.0	1.2	11.0	2.4	3.7	0.0	0.0	0.0	0.0	2.4
X>0 (Total %)	47.6	1.2	7.3	24.4	32.9	22.0	14.6	43.9	87.8	67.1	63.4	65.9
X<=-10.0	1.2	1.2	7.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
X<0 (Total %)	48.8	93.9	74.4	28.0	12.2	22.0	56.1	40.2	8.5	18.3	34.1	32.9
Net Change in % Exceedance:	-1.2	-92.7	-67.1	-3.7	20.7	0.0	-41.5	3.7	79.3	48.8	29.3	32.9
Net Change in 10% Exceedance	-1.2	-1.2	-7.3	1.2	11.0	1.2	3.7	0.0	0.0	0.0	0.0	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	8.5	13.4	25.6	25.6	25.6	18.3	18.3	14.6	8.5	14.6	4.9
X>=10.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	14.3	0.0	0.0	0.0	0.0	0.0	28.6	42.9	76.2	42.9	33.3	14.3
X<=-10.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
X<0 (Total %)	81.0	85.7	57.1	9.5	0.0	0.0	0.0	52.4	14.3	57.1	61.9	85.7
Net Change in % Exceedance:	-66.7	-85.7	-57.1	-9.5	0.0	0.0	28.6	-9.5	61.9	-14.3	-28.6	-71.4
Net Change in 10% Exceedance	-4.8	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	-4.8







The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	42.7	23.2	36.6	57.3	59.8	58.5	52.4	53.7	51.2	45.1	56.1	34.1
X>=10.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.2	0.0	0.0	0.0	0.0
X>0 (Total %)	39.0	23.2	29.3	56.1	70.7	75.6	43.9	23.2	68.3	68.3	31.7	63.4
X<=-10.0	0.0	2.4	0.0	0.0	1.2	0.0	0.0	0.0	0.0	1.2	0.0	0.0
X<0 (Total %)	61.0	76.8	70.7	42.7	28.0	23.2	56.1	76.8	31.7	31.7	68.3	36.6
Net Change in % Exceedance:	-22.0	-53.7	-41.5	13.4	42.7	52.4	-12.2	-53.7	36.6	36.6	-36.6	26.8
Net Change in 10% Exceedance	0.0	-2.4	0.0	0.0	-1.2	1.2	0.0	1.2	0.0	-1.2	0.0	0.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	17.1	6.1	8.5	6.1	8.5	9.8	8.5	14.6	12.2	18.3	18.3	7.3
X>=10.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	42.9	14.3	9.5	61.9	71.4	76.2	0.0	38.1	28.6	14.3	14.3	28.6
X<=-10.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	4.8	0.0	0.0
X<0 (Total %)	57.1	85.7	90.5	38.1	28.6	23.8	100.0	61.9	71.4	85.7	85.7	71.4
Net Change in % Exceedance:	-14.3	-71.4	-81.0	23.8	42.9	52.4	-100.0	-23.8	-42.9	-71.4	-71.4	-42.9
Net Change in 10% Exceedance	0.0	-4.8	0.0	0.0	-4.8	4.8	0.0	0.0	0.0	-4.8	0.0	0.0

**The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	52.4	28.0	46.3	65.9	64.6	67.1	42.7	48.8	53.7	37.8	45.1	36.6
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0
X > 0 (Total %)	31.7	19.5	29.3	48.8	51.2	56.1	43.9	23.2	59.8	63.4	11.0	48.8
X ≤ -10.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	6.1	0.0	0.0
X < 0 (Total %)	61.0	80.5	70.7	50.0	48.8	43.9	54.9	68.3	34.1	31.7	87.8	47.6
Net Change in % Exceedance:	-29.3	-61.0	-41.5	-1.2	2.4	12.2	-11.0	-45.1	25.6	31.7	-76.8	1.2
Net Change in 10% Exceedance	0.0	-1.2	0.0	0.0	-1.2	0.0	0.0	1.2	0.0	-6.1	1.2	0.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	17.1	6.1	8.5	8.5	6.1	12.2	3.7	9.8	9.8	14.6	8.5	7.3
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	28.6	4.8	4.8	66.7	61.9	71.4	4.8	42.9	23.8	9.5	0.0	14.3
X ≤ -10.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	23.8	0.0	0.0
X < 0 (Total %)	47.6	95.2	95.2	28.6	38.1	28.6	90.5	38.1	61.9	71.4	95.2	81.0
Net Change in % Exceedance:	-19.0	-90.5	-90.5	38.1	23.8	42.9	-85.7	4.8	-38.1	-61.9	-95.2	-66.7
Net Change in 10% Exceedance	0.0	-4.8	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	-23.8	0.0	0.0

The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River at Verona, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	20.7	22.0	39.0	69.5	65.9	54.9	64.6	63.4	40.2	35.4	41.5	28.0
X>=10.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
X>0 (Total %)	23.2	22.0	47.6	47.6	45.1	54.9	57.3	35.4	74.4	74.4	61.0	57.3
X<=-10.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	1.2	0.0
X<0 (Total %)	76.8	78.0	52.4	52.4	54.9	45.1	42.7	64.6	25.6	25.6	39.0	42.7
Net Change in % Exceedance:	-53.7	-56.1	-4.9	-4.9	-9.8	9.8	14.6	-29.3	48.8	48.8	22.0	14.6
Net Change in 10% Exceedance	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	-1.2	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	3.7	3.7	11.0	11.0	8.5	13.4	13.4	4.9	9.8	2.4	8.5
X>=10.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	61.9	19.0	47.6	66.7	71.4	42.9	19.0	52.4	90.5	28.6	47.6	0.0
X<=-10.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	4.8	0.0
X<0 (Total %)	38.1	81.0	52.4	33.3	28.6	57.1	81.0	47.6	9.5	71.4	52.4	100.0
Net Change in % Exceedance:	23.8	-61.9	-4.8	33.3	42.9	-14.3	-61.9	4.8	81.0	-42.9	-4.8	-100.0
Net Change in 10% Exceedance	0.0	0.0	0.0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	-4.8	0.0

**The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	35.4	41.5	39.0	58.5	54.9	59.8	51.2	42.7	48.8	35.4	51.2	15.9
X>=10.0	0.0	0.0	2.4	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
X>0 (Total %)	28.0	36.6	68.3	73.2	64.6	59.8	52.4	15.9	53.7	65.9	39.0	39.0
X<=-10.0	0.0	0.0	1.2	0.0	1.2	0.0	0.0	0.0	0.0	2.4	4.9	0.0
X<0 (Total %)	72.0	63.4	31.7	26.8	35.4	40.2	47.6	84.1	46.3	34.1	61.0	61.0
Net Change in % Exceedance:	-43.9	-26.8	36.6	46.3	29.3	19.5	4.9	-68.3	7.3	31.7	-22.0	-22.0
Net Change in 10% Exceedance	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	0.0	-2.4	-4.9	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	4.9	7.3	4.9	2.4	4.9	13.4	8.5	12.2	8.5	6.1	3.7
X>=10.0	0.0	0.0	9.5	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	61.9	14.3	61.9	81.0	76.2	33.3	52.4	28.6	66.7	33.3	23.8	9.5
X<=-10.0	0.0	0.0	4.8	0.0	4.8	0.0	0.0	0.0	0.0	9.5	19.0	0.0
X<0 (Total %)	38.1	85.7	38.1	19.0	23.8	66.7	47.6	71.4	33.3	66.7	76.2	90.5
Net Change in % Exceedance:	23.8	-71.4	23.8	61.9	52.4	-33.3	4.8	-42.9	33.3	-33.3	-52.4	-81.0
Net Change in 10% Exceedance	0.0	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	-9.5	-19.0	0.0

The No Project/No Action Alternative relative to the Existing Condition  
Sacramento River at Rio Vista, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	30.5	31.7	35.4	48.8	50.0	50.0	54.9	36.6	34.1	35.4	41.5	24.4
X ≥ 10.0	2.4	0.0	2.4	2.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
X > 0 (Total %)	14.6	37.8	65.9	81.7	67.1	61.0	54.9	18.3	53.7	64.6	45.1	39.0
X ≤ -10.0	3.7	1.2	1.2	0.0	2.4	1.2	0.0	0.0	0.0	3.7	8.5	0.0
X < 0 (Total %)	64.6	51.2	34.1	18.3	32.9	39.0	45.1	81.7	46.3	35.4	54.9	52.4
Net Change in % Exceedance:	-50.0	-13.4	31.7	63.4	34.1	22.0	9.8	-63.4	7.3	29.3	-9.8	-13.4
Net Change in 10% Exceedance	-1.2	-1.2	1.2	2.4	-1.2	-1.2	0.0	0.0	0.0	-3.7	-8.5	1.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	22.0	12.2	13.4	7.3	1.2	3.7	14.6	11.0	7.3	7.3	4.9	11.0
X ≥ 10.0	9.5	0.0	9.5	9.5	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	9.5	4.8	57.1	95.2	81.0	33.3	47.6	38.1	85.7	33.3	38.1	9.5
X ≤ -10.0	0.0	4.8	4.8	0.0	9.5	4.8	0.0	0.0	0.0	9.5	33.3	0.0
X < 0 (Total %)	14.3	52.4	42.9	4.8	19.0	66.7	52.4	61.9	14.3	66.7	61.9	57.1
Net Change in % Exceedance:	-4.8	-47.6	14.3	90.5	61.9	-33.3	-4.8	-23.8	71.4	-33.3	-23.8	-47.6
Net Change in 10% Exceedance	9.5	-4.8	4.8	9.5	-4.8	-4.8	0.0	0.0	0.0	-9.5	-33.3	0.0

## **Alternative A Compared to Existing Condition Sacramento River**

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**NODOS Alternative A relative to the Existing Condition  
Sacramento River below Keswick Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	19.5	15.9	26.8	37.8	40.2	67.1	22.0	14.6	14.6	58.5	25.6	11.0
X>=10.0	6.1	11.0	53.7	47.6	47.6	0.0	1.2	0.0	1.2	0.0	0.0	0.0
X>0 (Total %)	51.2	30.5	72.0	58.5	63.4	8.5	13.4	15.9	41.5	37.8	32.9	42.7
X<=-10.0	0.0	4.9	0.0	1.2	0.0	8.5	36.6	6.1	7.3	0.0	0.0	2.4
X<0 (Total %)	46.3	63.4	13.4	12.2	6.1	36.6	68.3	76.8	57.3	46.3	65.9	57.3
Net Change in % Exceedance:	4.9	-32.9	58.5	46.3	57.3	-28.0	-54.9	-61.0	-15.9	-8.5	-32.9	-14.6
Net Change in 10% Exceedance	6.1	6.1	53.7	46.3	47.6	-8.5	-35.4	-6.1	-6.1	0.0	0.0	-2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	7.3	20.7	20.7	15.9	25.6	8.5	3.7	3.7	8.5	4.9	3.7
X>=10.0	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	0.0
X>0 (Total %)	81.0	33.3	28.6	19.0	38.1	0.0	38.1	52.4	95.2	42.9	90.5	100.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	19.0	52.4	28.6	0.0	0.0	0.0	33.3	47.6	4.8	57.1	9.5	0.0
Net Change in % Exceedance:	61.9	-19.0	0.0	19.0	38.1	0.0	4.8	4.8	90.5	-14.3	81.0	100.0
Net Change in 10% Exceedance	23.8	0.0	0.0	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	0.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	28.0	7.3	9.8	23.2	29.3	39.0	17.1	26.8	17.1	54.9	24.4	17.1
X ≥ 10.0	2.4	0.0	46.3	39.0	29.3	0.0	0.0	0.0	1.2	0.0	0.0	0.0
X > 0 (Total %)	46.3	52.4	89.0	80.5	93.9	51.2	25.6	14.6	6.1	62.2	29.3	40.2
X ≤ -10.0	0.0	6.1	0.0	0.0	0.0	0.0	24.4	2.4	0.0	0.0	0.0	3.7
X < 0 (Total %)	53.7	47.6	11.0	19.5	6.1	48.8	74.4	85.4	93.9	37.8	70.7	59.8
Net Change in % Exceedance:	-7.3	4.9	78.0	61.0	87.8	2.4	-48.8	-70.7	-87.8	24.4	-41.5	-19.5
Net Change in 10% Exceedance	2.4	-6.1	46.3	39.0	29.3	0.0	-24.4	-2.4	0.0	0.0	0.0	-3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	2.4	0.0	0.0	0.0	3.7	0.0	4.9	9.8	11.0	8.5	3.7
X ≥ 10.0	4.8	0.0	38.1	81.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	47.6	33.3	85.7	95.2	100.0	52.4	0.0	4.8	14.3	52.4	71.4	90.5
X ≤ -10.0	0.0	4.8	0.0	0.0	0.0	0.0	42.9	9.5	0.0	0.0	0.0	0.0
X < 0 (Total %)	52.4	66.7	14.3	4.8	0.0	47.6	100.0	95.2	85.7	47.6	28.6	9.5
Net Change in % Exceedance:	-4.8	-33.3	71.4	90.5	100.0	4.8	-100.0	-90.5	-71.4	4.8	42.9	81.0
Net Change in 10% Exceedance	4.8	-4.8	38.1	81.0	52.4	0.0	-42.9	-9.5	0.0	0.0	0.0	0.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	30.5	14.6	8.5	9.8	8.5	7.3	9.8	37.8	62.2	9.8	23.2	20.7
X ≥ 10.0	2.4	0.0	11.0	1.2	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
X > 0 (Total %)	46.3	41.5	62.2	32.9	23.2	7.3	13.4	12.2	51.2	96.3	29.3	47.6
X ≤ -10.0	0.0	8.5	2.4	20.7	18.3	57.3	34.1	3.7	0.0	0.0	0.0	4.9
X < 0 (Total %)	53.7	58.5	37.8	67.1	76.8	92.7	86.6	87.8	48.8	3.7	70.7	52.4
Net Change in % Exceedance:	-7.3	-17.1	24.4	-34.1	-53.7	-85.4	-73.2	-75.6	2.4	92.7	-41.5	-4.9
Net Change in 10% Exceedance	2.4	-8.5	8.5	-19.5	-18.3	-57.3	-34.1	-3.7	0.0	0.0	0.0	-4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	4.9	1.2	3.7	1.2	0.0	0.0	1.2	8.5	7.3	7.3	2.4
X ≥ 10.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	52.4	23.8	81.0	95.2	52.4	0.0	0.0	0.0	90.5	85.7	66.7	90.5
X ≤ -10.0	0.0	4.8	0.0	0.0	4.8	52.4	61.9	9.5	0.0	0.0	0.0	0.0
X < 0 (Total %)	47.6	76.2	19.0	4.8	47.6	100.0	100.0	100.0	9.5	14.3	33.3	9.5
Net Change in % Exceedance:	4.8	-52.4	61.9	90.5	4.8	-100.0	-100.0	-100.0	81.0	71.4	33.3	81.0
Net Change in 10% Exceedance	4.8	-4.8	0.0	4.8	-4.8	-52.4	-61.9	-9.5	0.0	0.0	0.0	0.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	18.3	17.1	4.9	7.3	12.2	8.5	18.3	45.1	0.0	0.0	20.7	19.5
X>=10.0	2.4	0.0	4.9	8.5	0.0	0.0	0.0	0.0	1.2	82.9	0.0	0.0
X>0 (Total %)	46.3	39.0	48.8	23.2	20.7	4.9	17.1	29.3	100.0	100.0	15.9	35.4
X<=-10.0	0.0	8.5	11.0	28.0	28.0	61.0	34.1	9.8	0.0	0.0	0.0	2.4
X<0 (Total %)	53.7	61.0	51.2	76.8	79.3	95.1	82.9	70.7	0.0	0.0	84.1	64.6
Net Change in % Exceedance:	-7.3	-22.0	-2.4	-53.7	-58.5	-90.2	-65.9	-41.5	100.0	100.0	-68.3	-29.3
Net Change in 10% Exceedance	2.4	-8.5	-6.1	-19.5	-28.0	-61.0	-34.1	-9.8	42.7	82.9	0.0	-2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	2.4	4.9	1.2	3.7	3.7	1.2	0.0	13.4	0.0	0.0	2.4	8.5
X>=10.0	4.8	0.0	19.0	33.3	0.0	0.0	0.0	0.0	71.4	47.6	0.0	0.0
X>0 (Total %)	4.8	23.8	85.7	76.2	52.4	0.0	0.0	33.3	100.0	100.0	28.6	52.4
X<=-10.0	0.0	9.5	0.0	4.8	0.0	52.4	81.0	23.8	0.0	0.0	0.0	0.0
X<0 (Total %)	95.2	76.2	14.3	23.8	47.6	100.0	100.0	66.7	0.0	0.0	71.4	47.6
Net Change in % Exceedance:	-90.5	-52.4	71.4	52.4	4.8	-100.0	-100.0	-33.3	100.0	100.0	-42.9	4.8
Net Change in 10% Exceedance	4.8	-9.5	19.0	28.6	0.0	-52.4	-81.0	-23.8	71.4	47.6	0.0	0.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	1.2	2.4	11.0	1.2	17.1	13.4	45.1	41.5	1.2	1.2	0.0	3.7
X ≥ 10.0	63.4	48.8	20.7	9.8	0.0	0.0	0.0	1.2	1.2	86.6	37.8	70.7
X > 0 (Total %)	93.9	86.6	50.0	20.7	18.3	11.0	29.3	65.9	97.6	98.8	100.0	97.6
X ≤ -10.0	0.0	2.4	20.7	42.7	39.0	58.5	3.7	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	6.1	13.4	50.0	79.3	80.5	87.8	70.7	34.1	2.4	1.2	0.0	2.4
Net Change in % Exceedance:	87.8	73.2	0.0	-58.5	-62.2	-76.8	-41.5	31.7	95.1	97.6	100.0	95.1
Net Change in 10% Exceedance	63.4	46.3	0.0	-32.9	-39.0	-58.5	-3.7	-1.2	14.6	86.6	37.8	70.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	0.0	7.3	4.9	8.5	11.0	1.2	0.0	0.0	0.0
X ≥ 10.0	57.1	38.1	52.4	38.1	0.0	0.0	0.0	0.0	28.6	57.1	28.6	95.2
X > 0 (Total %)	100.0	100.0	100.0	76.2	61.9	23.8	38.1	81.0	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	47.6	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	23.8	38.1	76.2	61.9	19.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	52.4	23.8	-52.4	-23.8	61.9	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	57.1	38.1	52.4	33.3	-4.8	-47.6	0.0	0.0	28.6	57.1	28.6	95.2

**NODOS Alternative A relative to the Existing Condition  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	1.2	4.9	22.0	15.9	34.1	23.2	42.7	45.1	0.0	0.0	1.2	3.7
X ≥ 10.0	69.5	45.1	22.0	7.3	0.0	0.0	0.0	4.9	1.2	90.2	54.9	72.0
X > 0 (Total %)	95.1	85.4	51.2	24.4	22.0	11.0	54.9	65.9	97.6	98.8	100.0	95.1
X ≤ -10.0	0.0	1.2	18.3	31.7	23.2	52.4	4.9	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	4.9	14.6	48.8	75.6	78.0	89.0	43.9	28.0	2.4	1.2	0.0	3.7
Net Change in % Exceedance:	90.2	70.7	2.4	-51.2	-56.1	-78.0	11.0	37.8	95.1	97.6	100.0	91.5
Net Change in 10% Exceedance	69.5	43.9	3.7	-24.4	-23.2	-52.4	-4.9	2.4	28.0	90.2	54.9	72.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	1.2	6.1	3.7	9.8	4.9	0.0	0.0	1.2	0.0
X ≥ 10.0	61.9	33.3	47.6	28.6	0.0	0.0	0.0	0.0	47.6	71.4	42.9	100.0
X > 0 (Total %)	100.0	100.0	100.0	76.2	66.7	33.3	47.6	85.7	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	23.8	33.3	66.7	47.6	4.8	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	52.4	33.3	-33.3	0.0	81.0	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	61.9	33.3	47.6	23.8	0.0	-52.4	0.0	0.0	47.6	71.4	42.9	100.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	13.4	12.2	24.4	11.0	22.0	24.4	47.6	57.3	4.9	1.2	9.8	3.7
X ≥ 10.0	17.1	24.4	0.0	3.7	0.0	0.0	0.0	0.0	1.2	70.7	22.0	57.3
X > 0 (Total %)	82.9	81.7	45.1	31.7	18.3	20.7	43.9	37.8	98.8	98.8	91.5	96.3
X ≤ -10.0	1.2	1.2	7.3	26.8	17.1	25.6	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	17.1	18.3	54.9	68.3	81.7	79.3	56.1	62.2	1.2	1.2	8.5	3.7
Net Change in % Exceedance:	65.9	63.4	-9.8	-36.6	-63.4	-58.5	-12.2	-24.4	97.6	97.6	82.9	92.7
Net Change in 10% Exceedance	15.9	23.2	-7.3	-23.2	-17.1	-25.6	0.0	0.0	15.9	70.7	22.0	57.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	4.9	4.9	0.0	1.2	4.9	14.6	9.8	0.0	1.2	0.0	1.2
X ≥ 10.0	9.5	23.8	0.0	14.3	0.0	0.0	0.0	0.0	33.3	0.0	38.1	81.0
X > 0 (Total %)	85.7	85.7	76.2	95.2	47.6	23.8	19.0	61.9	100.0	95.2	100.0	95.2
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	14.3	14.3	23.8	4.8	52.4	76.2	81.0	38.1	0.0	4.8	0.0	4.8
Net Change in % Exceedance:	71.4	71.4	52.4	90.5	-4.8	-52.4	-61.9	23.8	100.0	90.5	100.0	90.5
Net Change in 10% Exceedance	9.5	23.8	0.0	9.5	-4.8	-14.3	0.0	0.0	33.3	0.0	38.1	81.0

**NODOS Alternative A relative to the Existing Condition  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	13.4	22.0	11.0	26.8	30.5	40.2	50.0	6.1	2.4	17.1	12.2
X>=10.0	17.1	15.9	1.2	8.5	2.4	0.0	0.0	0.0	1.2	1.2	8.5	22.0
X>0 (Total %)	95.1	79.3	58.5	32.9	30.5	28.0	46.3	29.3	95.1	96.3	98.8	86.6
X<=-10.0	0.0	0.0	3.7	19.5	6.1	26.8	0.0	0.0	0.0	1.2	0.0	0.0
X<0 (Total %)	4.9	20.7	41.5	67.1	69.5	72.0	53.7	70.7	4.9	3.7	1.2	13.4
Net Change in % Exceedance:	90.2	58.5	17.1	-34.1	-39.0	-43.9	-7.3	-41.5	90.2	92.7	97.6	73.2
Net Change in 10% Exceedance	17.1	15.9	-2.4	-11.0	-3.7	-26.8	0.0	0.0	0.0	0.0	8.5	22.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	2.4	6.1	0.0	2.4	6.1	9.8	6.1	0.0	2.4	2.4	2.4
X>=10.0	14.3	9.5	4.8	33.3	9.5	0.0	0.0	0.0	0.0	4.8	33.3	47.6
X>0 (Total %)	95.2	61.9	95.2	95.2	57.1	33.3	71.4	47.6	100.0	85.7	100.0	81.0
X<=-10.0	0.0	0.0	0.0	4.8	4.8	19.0	0.0	0.0	0.0	4.8	0.0	0.0
X<0 (Total %)	4.8	38.1	4.8	4.8	42.9	66.7	28.6	52.4	0.0	14.3	0.0	19.0
Net Change in % Exceedance:	90.5	23.8	90.5	90.5	14.3	-33.3	42.9	-4.8	100.0	71.4	100.0	61.9
Net Change in 10% Exceedance	14.3	9.5	4.8	28.6	4.8	-19.0	0.0	0.0	0.0	0.0	33.3	47.6

**NODOS Alternative A relative to the Existing Condition  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	23.2	18.3	9.8	7.3	14.6	25.6	43.9	46.3	4.9	1.2	17.1	15.9
X ≥ 10.0	35.4	34.1	3.7	8.5	2.4	0.0	0.0	0.0	1.2	24.4	14.6	37.8
X > 0 (Total %)	75.6	76.8	53.7	31.7	24.4	28.0	45.1	34.1	95.1	97.6	89.0	86.6
X ≤ -10.0	1.2	0.0	13.4	18.3	9.8	28.0	0.0	0.0	0.0	1.2	0.0	0.0
X < 0 (Total %)	11.0	14.6	46.3	68.3	75.6	72.0	54.9	65.9	4.9	2.4	11.0	7.3
Net Change in % Exceedance:	64.6	62.2	7.3	-36.6	-51.2	-43.9	-9.8	-31.7	90.2	95.1	78.0	79.3
Net Change in 10% Exceedance	34.1	34.1	-9.8	-9.8	-7.3	-28.0	0.0	0.0	11.0	23.2	14.6	37.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	15.9	9.8	1.2	0.0	2.4	6.1	13.4	9.8	0.0	1.2	0.0	6.1
X ≥ 10.0	14.3	23.8	9.5	33.3	9.5	0.0	0.0	0.0	28.6	28.6	52.4	57.1
X > 0 (Total %)	47.6	52.4	90.5	95.2	57.1	33.3	71.4	57.1	100.0	90.5	100.0	76.2
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	19.0	0.0	0.0	0.0	4.8	0.0	0.0
X < 0 (Total %)	0.0	14.3	9.5	4.8	42.9	66.7	28.6	42.9	0.0	9.5	0.0	0.0
Net Change in % Exceedance:	47.6	38.1	81.0	90.5	14.3	-33.3	42.9	14.3	100.0	81.0	100.0	76.2
Net Change in 10% Exceedance	14.3	23.8	9.5	28.6	4.8	-19.0	0.0	0.0	28.6	23.8	52.4	57.1

## **Alternative A Compared to No Action Alternative Condition Sacramento River**

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**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River below Keswick Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	14.6	17.1	22.0	39.0	37.8	64.6	29.3	14.6	22.0	34.1	15.9	8.5
X ≥ 10.0	9.8	20.7	54.9	45.1	46.3	0.0	0.0	0.0	1.2	0.0	0.0	1.2
X > 0 (Total %)	57.3	57.3	75.6	56.1	57.3	7.3	4.9	14.6	35.4	13.4	25.6	29.3
X ≤ -10.0	0.0	2.4	0.0	2.4	0.0	11.0	25.6	6.1	12.2	0.0	0.0	6.1
X < 0 (Total %)	41.5	36.6	6.1	8.5	9.8	41.5	78.0	76.8	62.2	68.3	73.2	70.7
Net Change in % Exceedance:	15.9	20.7	69.5	47.6	47.6	-34.1	-73.2	-62.2	-26.8	-54.9	-47.6	-41.5
Net Change in 10% Exceedance	9.8	18.3	54.9	42.7	46.3	-11.0	-25.6	-6.1	-11.0	0.0	0.0	-4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	1.2	8.5	15.9	20.7	15.9	25.6	9.8	2.4	13.4	8.5	6.1	0.0
X ≥ 10.0	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8
X > 0 (Total %)	100.0	52.4	42.9	19.0	38.1	0.0	14.3	52.4	100.0	52.4	81.0	100.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	28.6	0.0	0.0	0.0	0.0	57.1	47.6	0.0	47.6	19.0	0.0
Net Change in % Exceedance:	100.0	23.8	42.9	19.0	38.1	0.0	-42.9	4.8	100.0	4.8	61.9	100.0
Net Change in 10% Exceedance	38.1	9.5	4.8	14.3	38.1	0.0	0.0	0.0	4.8	0.0	0.0	4.8

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	36.6	7.3	11.0	24.4	30.5	64.6	26.8	30.5	4.9	25.6	9.8	19.5
X>=10.0	3.7	1.2	52.4	39.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2
X>0 (Total %)	39.0	58.5	90.2	75.6	84.1	31.7	19.5	13.4	6.1	25.6	23.2	25.6
X<=-10.0	0.0	0.0	0.0	1.2	0.0	1.2	7.3	3.7	0.0	0.0	0.0	4.9
X<0 (Total %)	61.0	41.5	9.8	24.4	15.9	68.3	80.5	86.6	93.9	74.4	76.8	74.4
Net Change in % Exceedance:	-22.0	17.1	80.5	51.2	68.3	-36.6	-61.0	-73.2	-87.8	-48.8	-53.7	-48.8
Net Change in 10% Exceedance	3.7	1.2	52.4	37.8	14.6	-1.2	-7.3	-3.7	0.0	0.0	0.0	-3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	15.9	3.7	3.7	0.0	1.2	13.4	0.0	2.4	1.2	1.2	3.7	7.3
X>=10.0	4.8	0.0	42.9	81.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0	4.8
X>0 (Total %)	42.9	38.1	90.5	95.2	100.0	23.8	0.0	0.0	14.3	38.1	85.7	90.5
X<=-10.0	0.0	0.0	0.0	4.8	0.0	0.0	23.8	14.3	0.0	0.0	0.0	0.0
X<0 (Total %)	57.1	61.9	9.5	4.8	0.0	76.2	100.0	100.0	85.7	61.9	14.3	9.5
Net Change in % Exceedance:	-14.3	-23.8	81.0	90.5	100.0	-52.4	-100.0	-100.0	-71.4	-23.8	71.4	81.0
Net Change in 10% Exceedance	4.8	0.0	42.9	76.2	47.6	0.0	-23.8	-14.3	0.0	0.0	0.0	4.8

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	36.6	8.5	13.4	12.2	12.2	8.5	14.6	34.1	46.3	35.4	23.2	25.6
X>=10.0	2.4	1.2	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	40.2	48.8	69.5	35.4	17.1	1.2	8.5	12.2	25.6	80.5	17.1	32.9
X<=-10.0	0.0	1.2	1.2	26.8	28.0	56.1	17.1	7.3	0.0	0.0	0.0	3.7
X<0 (Total %)	59.8	51.2	30.5	64.6	82.9	98.8	91.5	87.8	74.4	19.5	82.9	67.1
Net Change in % Exceedance:	-19.5	-2.4	39.0	-29.3	-65.9	-97.6	-82.9	-75.6	-48.8	61.0	-65.9	-34.1
Net Change in 10% Exceedance	2.4	0.0	22.0	-26.8	-28.0	-56.1	-17.1	-7.3	0.0	0.0	0.0	-3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	12.2	2.4	3.7	4.9	1.2	0.0	0.0	3.7	14.6	11.0	11.0	6.1
X>=10.0	4.8	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	33.3	38.1	90.5	95.2	47.6	0.0	0.0	0.0	71.4	95.2	61.9	90.5
X<=-10.0	0.0	4.8	0.0	4.8	4.8	47.6	33.3	9.5	0.0	0.0	0.0	0.0
X<0 (Total %)	66.7	61.9	9.5	4.8	52.4	100.0	100.0	100.0	28.6	4.8	38.1	9.5
Net Change in % Exceedance:	-33.3	-23.8	81.0	90.5	-4.8	-100.0	-100.0	-100.0	42.9	90.5	23.8	81.0
Net Change in 10% Exceedance	4.8	-4.8	33.3	-4.8	-4.8	-47.6	-33.3	-9.5	0.0	0.0	0.0	0.0

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	20.7	11.0	6.1	6.1	15.9	8.5	14.6	17.1	0.0	0.0	32.9	22.0
X ≥ 10.0	2.4	1.2	18.3	4.9	0.0	0.0	0.0	0.0	28.0	75.6	0.0	0.0
X > 0 (Total %)	59.8	56.1	52.4	29.3	19.5	4.9	9.8	36.6	100.0	100.0	20.7	41.5
X ≤ -10.0	0.0	0.0	8.5	30.5	31.7	63.4	23.2	8.5	0.0	0.0	0.0	4.9
X < 0 (Total %)	40.2	43.9	47.6	70.7	80.5	95.1	90.2	63.4	0.0	0.0	79.3	58.5
Net Change in % Exceedance:	19.5	12.2	4.9	-41.5	-61.0	-90.2	-80.5	-26.8	100.0	100.0	-58.5	-17.1
Net Change in 10% Exceedance	2.4	1.2	9.8	-25.6	-31.7	-63.4	-23.2	-8.5	28.0	75.6	0.0	-4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	4.9	4.9	2.4	3.7	4.9	0.0	0.0	2.4	0.0	0.0	12.2	3.7
X ≥ 10.0	4.8	0.0	38.1	19.0	0.0	0.0	0.0	0.0	66.7	61.9	0.0	0.0
X > 0 (Total %)	9.5	52.4	90.5	85.7	57.1	0.0	0.0	47.6	100.0	100.0	61.9	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	66.7	61.9	28.6	0.0	0.0	0.0	0.0
X < 0 (Total %)	90.5	47.6	9.5	14.3	42.9	100.0	100.0	52.4	0.0	0.0	38.1	0.0
Net Change in % Exceedance:	-81.0	4.8	81.0	71.4	14.3	-100.0	-100.0	-4.8	100.0	100.0	23.8	100.0
Net Change in 10% Exceedance	4.8	0.0	38.1	14.3	0.0	-66.7	-61.9	-28.6	66.7	61.9	0.0	0.0

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	2.4	2.4	6.1	6.1	13.4	14.6	35.4	22.0	3.7	0.0	0.0	4.9
X>=10.0	63.4	57.3	32.9	6.1	0.0	0.0	0.0	3.7	8.5	92.7	40.2	65.9
X>0 (Total %)	97.6	93.9	50.0	19.5	18.3	8.5	36.6	70.7	97.6	100.0	100.0	100.0
X<=-10.0	0.0	3.7	19.5	43.9	42.7	58.5	6.1	2.4	1.2	0.0	0.0	0.0
X<0 (Total %)	2.4	6.1	50.0	80.5	80.5	90.2	63.4	29.3	2.4	0.0	0.0	0.0
Net Change in % Exceedance:	95.1	87.8	0.0	-61.0	-62.2	-81.7	-26.8	41.5	95.1	100.0	100.0	100.0
Net Change in 10% Exceedance	63.4	53.7	13.4	-37.8	-42.7	-58.5	-6.1	1.2	7.3	92.7	40.2	65.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	4.9	6.1	6.1	8.5	6.1	1.2	0.0	0.0	0.0
X>=10.0	47.6	47.6	85.7	23.8	0.0	0.0	0.0	0.0	33.3	81.0	38.1	100.0
X>0 (Total %)	100.0	100.0	100.0	71.4	57.1	23.8	81.0	90.5	100.0	100.0	100.0	100.0
X<=-10.0	0.0	0.0	0.0	4.8	4.8	47.6	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	28.6	42.9	76.2	19.0	9.5	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	42.9	14.3	-52.4	61.9	81.0	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	47.6	47.6	85.7	19.0	-4.8	-47.6	0.0	0.0	33.3	81.0	38.1	100.0

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	2.4	3.7	15.9	18.3	35.4	26.8	25.6	20.7	3.7	0.0	0.0	4.9
X ≥ 10.0	70.7	63.4	32.9	3.7	0.0	0.0	0.0	3.7	29.3	97.6	64.6	67.1
X > 0 (Total %)	98.8	91.5	51.2	23.2	22.0	14.6	52.4	76.8	97.6	100.0	100.0	96.3
X ≤ -10.0	0.0	2.4	15.9	31.7	25.6	53.7	8.5	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	1.2	8.5	48.8	76.8	78.0	85.4	41.5	22.0	2.4	0.0	0.0	2.4
Net Change in % Exceedance:	97.6	82.9	2.4	-53.7	-56.1	-70.7	11.0	54.9	95.1	100.0	100.0	93.9
Net Change in 10% Exceedance	70.7	61.0	17.1	-28.0	-25.6	-53.7	-8.5	1.2	28.0	97.6	64.6	67.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	1.2	7.3	6.1	4.9	3.7	0.0	0.0	0.0	0.0
X ≥ 10.0	66.7	61.9	85.7	14.3	0.0	0.0	0.0	0.0	57.1	95.2	71.4	100.0
X > 0 (Total %)	100.0	100.0	100.0	71.4	61.9	38.1	76.2	95.2	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	52.4	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	28.6	38.1	61.9	19.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	42.9	23.8	-23.8	57.1	95.2	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	66.7	61.9	85.7	9.5	-4.8	-52.4	0.0	0.0	57.1	95.2	71.4	100.0

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	0.0	6.1	24.4	11.0	26.8	24.4	46.3	50.0	13.4	0.0	11.0	4.9
X ≥ 10.0	24.4	42.7	6.1	4.9	2.4	0.0	0.0	0.0	6.1	42.7	13.4	51.2
X > 0 (Total %)	91.5	90.2	41.5	32.9	22.0	18.3	42.7	57.3	91.5	98.8	90.2	98.8
X ≤ -10.0	0.0	0.0	6.1	26.8	15.9	20.7	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	8.5	9.8	58.5	67.1	78.0	81.7	57.3	42.7	8.5	1.2	9.8	1.2
Net Change in % Exceedance:	82.9	80.5	-17.1	-34.1	-56.1	-63.4	-14.6	14.6	82.9	97.6	80.5	97.6
Net Change in 10% Exceedance	24.4	42.7	0.0	-22.0	-13.4	-20.7	0.0	0.0	6.1	42.7	13.4	51.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	2.4	7.3	0.0	3.7	3.7	14.6	7.3	4.9	0.0	0.0	0.0
X ≥ 10.0	14.3	38.1	23.8	19.0	9.5	0.0	0.0	0.0	0.0	14.3	42.9	81.0
X > 0 (Total %)	71.4	95.2	66.7	95.2	47.6	33.3	38.1	66.7	81.0	95.2	95.2	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	28.6	4.8	33.3	4.8	52.4	66.7	61.9	33.3	19.0	4.8	4.8	0.0
Net Change in % Exceedance:	42.9	90.5	33.3	90.5	-4.8	-33.3	-23.8	33.3	61.9	90.5	90.5	100.0
Net Change in 10% Exceedance	14.3	38.1	23.8	14.3	4.8	-14.3	0.0	0.0	0.0	14.3	42.9	81.0

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	9.8	13.4	28.0	14.6	35.4	25.6	48.8	46.3	9.8	0.0	6.1	15.9
X ≥ 10.0	19.5	25.6	2.4	1.2	1.2	0.0	0.0	0.0	0.0	3.7	13.4	31.7
X > 0 (Total %)	93.9	85.4	40.2	30.5	19.5	25.6	51.2	62.2	96.3	100.0	96.3	95.1
X ≤ -10.0	0.0	0.0	4.9	18.3	11.0	23.2	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	4.9	14.6	59.8	69.5	80.5	74.4	48.8	37.8	3.7	0.0	3.7	4.9
Net Change in % Exceedance:	89.0	70.7	-19.5	-39.0	-61.0	-48.8	2.4	24.4	92.7	100.0	92.7	90.2
Net Change in 10% Exceedance	19.5	25.6	-2.4	-17.1	-9.8	-23.2	0.0	0.0	0.0	3.7	13.4	31.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	8.5	4.9	0.0	9.8	1.2	11.0	6.1	2.4	0.0	1.2	1.2
X ≥ 10.0	4.8	23.8	9.5	4.8	4.8	0.0	0.0	0.0	0.0	14.3	47.6	61.9
X > 0 (Total %)	81.0	85.7	66.7	85.7	38.1	52.4	85.7	61.9	100.0	100.0	90.5	100.0
X ≤ -10.0	0.0	0.0	4.8	4.8	9.5	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	14.3	14.3	33.3	14.3	61.9	47.6	14.3	38.1	0.0	0.0	9.5	0.0
Net Change in % Exceedance:	66.7	71.4	33.3	71.4	-23.8	4.8	71.4	23.8	100.0	100.0	81.0	100.0
Net Change in 10% Exceedance	4.8	23.8	4.8	0.0	-4.8	-19.0	0.0	0.0	0.0	14.3	47.6	61.9

**NODOS Alternative A relative to the No Project/No Action Alternative  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	18.3	15.9	7.3	20.7	20.7	51.2	45.1	6.1	0.0	4.9	15.9
X>=10.0	48.8	47.6	4.9	3.7	1.2	0.0	0.0	0.0	3.7	28.0	17.1	54.9
X>0 (Total %)	85.4	79.3	43.9	28.0	23.2	24.4	46.3	56.1	96.3	100.0	95.1	90.2
X<=-10.0	0.0	0.0	11.0	23.2	11.0	29.3	1.2	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	2.4	12.2	56.1	72.0	76.8	75.6	53.7	43.9	3.7	0.0	4.9	3.7
Net Change in % Exceedance:	82.9	67.1	-12.2	-43.9	-53.7	-51.2	-7.3	12.2	92.7	100.0	90.2	86.6
Net Change in 10% Exceedance	48.8	47.6	-6.1	-19.5	-9.8	-29.3	-1.2	0.0	3.7	28.0	17.1	54.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	8.5	4.9	0.0	6.1	0.0	8.5	7.3	0.0	0.0	2.4	6.1
X>=10.0	9.5	42.9	19.0	14.3	4.8	0.0	0.0	0.0	9.5	42.9	61.9	71.4
X>0 (Total %)	47.6	66.7	71.4	85.7	47.6	47.6	66.7	57.1	95.2	100.0	90.5	76.2
X<=-10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	4.8	0.0	28.6	14.3	52.4	52.4	33.3	42.9	4.8	0.0	9.5	0.0
Net Change in % Exceedance:	42.9	66.7	42.9	71.4	-4.8	-4.8	33.3	14.3	90.5	100.0	81.0	76.2
Net Change in 10% Exceedance	9.5	42.9	19.0	9.5	4.8	-19.0	0.0	0.0	9.5	42.9	61.9	71.4

## **Alternative B Compared to Existing Condition Sacramento River**

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**NODOS Alternative B relative to the Existing Condition  
Sacramento River below Keswick Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	19.5	14.6	23.2	36.6	34.1	57.3	22.0	22.0	11.0	35.4	23.2	15.9
X>=10.0	6.1	12.2	52.4	47.6	48.8	0.0	4.9	0.0	0.0	0.0	0.0	6.1
X>0 (Total %)	41.5	48.8	67.1	54.9	69.5	17.1	14.6	3.7	41.5	51.2	41.5	65.9
X<=-10.0	1.2	1.2	0.0	3.7	0.0	12.2	50.0	25.6	3.7	0.0	0.0	0.0
X<0 (Total %)	57.3	46.3	20.7	15.9	2.4	32.9	69.5	87.8	58.5	31.7	56.1	32.9
Net Change in % Exceedance:	-15.9	2.4	46.3	39.0	67.1	-15.9	-54.9	-84.1	-17.1	19.5	-14.6	32.9
Net Change in 10% Exceedance	4.9	11.0	52.4	43.9	48.8	-12.2	-45.1	-25.6	-3.7	0.0	0.0	6.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	4.9	4.9	18.3	18.3	15.9	25.6	8.5	3.7	6.1	4.9	1.2	0.0
X>=10.0	23.8	0.0	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8
X>0 (Total %)	52.4	28.6	23.8	28.6	38.1	0.0	47.6	4.8	100.0	57.1	100.0	100.0
X<=-10.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	47.6	57.1	33.3	0.0	0.0	0.0	33.3	95.2	0.0	42.9	0.0	0.0
Net Change in % Exceedance:	4.8	-28.6	-9.5	28.6	38.1	0.0	14.3	-90.5	100.0	14.3	100.0	100.0
Net Change in 10% Exceedance	19.0	-4.8	0.0	23.8	38.1	0.0	14.3	0.0	0.0	0.0	0.0	23.8

**NODOS Alternative B relative to the Existing Condition  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	25.6	7.3	12.2	19.5	24.4	35.4	18.3	15.9	18.3	42.7	29.3	13.4
X ≥ 10.0	1.2	0.0	45.1	41.5	34.1	0.0	0.0	0.0	0.0	0.0	0.0	3.7
X > 0 (Total %)	39.0	54.9	85.4	76.8	98.8	50.0	24.4	22.0	17.1	70.7	43.9	74.4
X ≤ -10.0	0.0	2.4	0.0	1.2	0.0	4.9	43.9	8.5	0.0	0.0	0.0	0.0
X < 0 (Total %)	61.0	45.1	14.6	23.2	1.2	50.0	75.6	78.0	82.9	29.3	56.1	25.6
Net Change in % Exceedance:	-22.0	9.8	70.7	53.7	97.6	0.0	-51.2	-56.1	-65.9	41.5	-12.2	48.8
Net Change in 10% Exceedance	1.2	-2.4	45.1	40.2	34.1	-4.9	-43.9	-8.5	0.0	0.0	0.0	3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	3.7	2.4	0.0	0.0	6.1	1.2	0.0	13.4	9.8	7.3	0.0
X ≥ 10.0	0.0	0.0	28.6	81.0	61.9	0.0	0.0	0.0	0.0	0.0	0.0	14.3
X > 0 (Total %)	33.3	28.6	81.0	95.2	100.0	57.1	0.0	0.0	61.9	61.9	95.2	100.0
X ≤ -10.0	0.0	9.5	0.0	0.0	0.0	0.0	52.4	28.6	0.0	0.0	0.0	0.0
X < 0 (Total %)	66.7	71.4	19.0	4.8	0.0	42.9	100.0	100.0	38.1	38.1	4.8	0.0
Net Change in % Exceedance:	-33.3	-42.9	61.9	90.5	100.0	14.3	-100.0	-100.0	23.8	23.8	90.5	100.0
Net Change in 10% Exceedance	0.0	-9.5	28.6	81.0	61.9	0.0	-52.4	-28.6	0.0	0.0	0.0	14.3

**NODOS Alternative B relative to the Existing Condition  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	25.6	8.5	8.5	11.0	6.1	2.4	6.1	3.7	28.0	18.3	37.8	6.1
X>=10.0	1.2	0.0	13.4	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
X>0 (Total %)	46.3	47.6	53.7	32.9	20.7	1.2	6.1	1.2	17.1	84.1	29.3	79.3
X<=-10.0	0.0	2.4	1.2	29.3	20.7	73.2	62.2	19.5	0.0	0.0	0.0	0.0
X<0 (Total %)	53.7	52.4	46.3	67.1	79.3	98.8	93.9	98.8	82.9	15.9	70.7	20.7
Net Change in % Exceedance:	-7.3	-4.9	7.3	-34.1	-58.5	-97.6	-87.8	-97.6	-65.9	68.3	-41.5	58.5
Net Change in 10% Exceedance	1.2	-2.4	12.2	-25.6	-20.7	-73.2	-62.2	-19.5	0.0	0.0	0.0	2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	4.9	6.1	4.9	1.2	0.0	2.4	0.0	18.3	7.3	12.2	0.0
X>=10.0	0.0	0.0	4.8	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5
X>0 (Total %)	33.3	19.0	71.4	95.2	52.4	0.0	4.8	0.0	57.1	66.7	76.2	100.0
X<=-10.0	0.0	9.5	0.0	0.0	4.8	61.9	81.0	23.8	0.0	0.0	0.0	0.0
X<0 (Total %)	66.7	81.0	28.6	4.8	47.6	100.0	95.2	100.0	42.9	33.3	23.8	0.0
Net Change in % Exceedance:	-33.3	-61.9	42.9	90.5	4.8	-100.0	-90.5	-100.0	14.3	33.3	52.4	100.0
Net Change in 10% Exceedance	0.0	-9.5	4.8	14.3	-4.8	-61.9	-81.0	-23.8	0.0	0.0	0.0	9.5

**NODOS Alternative B relative to the Existing Condition  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	12.2	23.2	4.9	9.8	4.9	3.7	3.7	2.4	47.6	2.4	11.0	13.4
X>=10.0	2.4	0.0	2.4	8.5	0.0	0.0	0.0	0.0	0.0	3.7	0.0	2.4
X>0 (Total %)	39.0	48.8	47.6	26.8	17.1	0.0	2.4	0.0	43.9	95.1	13.4	74.4
X<=-10.0	0.0	4.9	11.0	32.9	30.5	86.6	78.0	46.3	0.0	0.0	0.0	0.0
X<0 (Total %)	61.0	51.2	52.4	73.2	82.9	100.0	97.6	100.0	56.1	4.9	86.6	25.6
Net Change in % Exceedance:	-22.0	-2.4	-4.9	-46.3	-65.9	-100.0	-95.1	-100.0	-12.2	90.2	-73.2	48.8
Net Change in 10% Exceedance	2.4	-4.9	-8.5	-24.4	-30.5	-86.6	-78.0	-46.3	0.0	3.7	0.0	2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	3.7	2.4	3.7	2.4	1.2	0.0	0.0	14.6	2.4	6.1	1.2
X>=10.0	0.0	0.0	9.5	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5
X>0 (Total %)	4.8	19.0	81.0	81.0	52.4	0.0	0.0	0.0	57.1	85.7	33.3	100.0
X<=-10.0	0.0	14.3	0.0	4.8	0.0	76.2	81.0	71.4	0.0	0.0	0.0	0.0
X<0 (Total %)	95.2	81.0	19.0	19.0	47.6	100.0	100.0	100.0	42.9	14.3	66.7	0.0
Net Change in % Exceedance:	-90.5	-61.9	61.9	61.9	4.8	-100.0	-100.0	-100.0	14.3	71.4	-33.3	100.0
Net Change in 10% Exceedance	0.0	-14.3	9.5	28.6	0.0	-76.2	-81.0	-71.4	0.0	0.0	0.0	9.5

**NODOS Alternative B relative to the Existing Condition  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	4.9	2.4	9.8	7.3	12.2	4.9	9.8	48.8	0.0	0.0	0.0	2.4
X ≥ 10.0	46.3	47.6	22.0	11.0	2.4	0.0	0.0	0.0	36.6	87.8	22.0	79.3
X > 0 (Total %)	95.1	93.9	56.1	30.5	28.0	11.0	4.9	51.2	97.6	98.8	100.0	100.0
X ≤ -10.0	0.0	1.2	14.6	25.6	9.8	69.5	15.9	9.8	1.2	0.0	0.0	0.0
X < 0 (Total %)	4.9	6.1	43.9	69.5	72.0	87.8	95.1	48.8	2.4	1.2	0.0	0.0
Net Change in % Exceedance:	90.2	87.8	12.2	-39.0	-43.9	-76.8	-90.2	2.4	95.1	97.6	100.0	100.0
Net Change in 10% Exceedance	46.3	46.3	7.3	-14.6	-7.3	-69.5	-15.9	-9.8	35.4	87.8	22.0	79.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	1.2	0.0	2.4	4.9	2.4	4.9	11.0	0.0	0.0	0.0	0.0
X ≥ 10.0	14.3	33.3	57.1	42.9	9.5	0.0	0.0	0.0	52.4	61.9	28.6	100.0
X > 0 (Total %)	100.0	100.0	100.0	85.7	90.5	38.1	4.8	76.2	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	14.3	9.5	61.9	95.2	23.8	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	71.4	81.0	-23.8	-90.5	52.4	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	14.3	33.3	57.1	38.1	9.5	-42.9	0.0	0.0	52.4	61.9	28.6	100.0

**NODOS Alternative B relative to the Existing Condition  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	7.3	6.1	17.1	23.2	32.9	11.0	34.1	32.9	0.0	0.0	3.7	2.4
X ≥ 10.0	46.3	47.6	24.4	8.5	3.7	0.0	0.0	0.0	47.6	90.2	30.5	79.3
X > 0 (Total %)	92.7	93.9	53.7	35.4	24.4	9.8	6.1	39.0	97.6	98.8	100.0	97.6
X ≤ -10.0	0.0	1.2	13.4	17.1	8.5	54.9	11.0	8.5	1.2	0.0	0.0	0.0
X < 0 (Total %)	7.3	6.1	46.3	64.6	75.6	90.2	90.2	58.5	2.4	1.2	0.0	1.2
Net Change in % Exceedance:	85.4	87.8	7.3	-29.3	-51.2	-80.5	-84.1	-19.5	95.1	97.6	100.0	96.3
Net Change in 10% Exceedance	46.3	46.3	11.0	-8.5	-4.9	-54.9	-11.0	-8.5	46.3	90.2	30.5	79.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	0.0	0.0	1.2	3.7	3.7	6.1	2.4	0.0	0.0	3.7	0.0
X ≥ 10.0	14.3	28.6	57.1	33.3	14.3	0.0	0.0	0.0	57.1	71.4	33.3	100.0
X > 0 (Total %)	90.5	100.0	100.0	90.5	85.7	38.1	14.3	76.2	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	9.5	0.0	0.0	9.5	14.3	61.9	71.4	19.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	81.0	100.0	100.0	81.0	71.4	-23.8	-57.1	57.1	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	14.3	28.6	57.1	33.3	14.3	-42.9	0.0	0.0	57.1	71.4	33.3	100.0

**NODOS Alternative B relative to the Existing Condition  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	7.3	11.0	18.3	13.4	19.5	13.4	34.1	39.0	1.2	3.7	9.8	0.0
X ≥ 10.0	17.1	30.5	2.4	3.7	1.2	0.0	0.0	0.0	14.6	52.4	23.2	59.8
X > 0 (Total %)	89.0	87.8	43.9	34.1	22.0	8.5	20.7	31.7	98.8	96.3	92.7	100.0
X ≤ -10.0	1.2	1.2	2.4	6.1	2.4	35.4	2.4	1.2	0.0	0.0	0.0	0.0
X < 0 (Total %)	11.0	12.2	56.1	65.9	78.0	91.5	79.3	68.3	1.2	3.7	7.3	0.0
Net Change in % Exceedance:	78.0	75.6	-12.2	-31.7	-56.1	-82.9	-58.5	-36.6	97.6	92.7	85.4	100.0
Net Change in 10% Exceedance	15.9	29.3	0.0	-2.4	-1.2	-35.4	-2.4	-1.2	14.6	52.4	23.2	59.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	3.7	2.4	0.0	1.2	4.9	9.8	7.3	0.0	3.7	0.0	0.0
X ≥ 10.0	9.5	14.3	9.5	14.3	4.8	0.0	0.0	0.0	33.3	9.5	23.8	76.2
X > 0 (Total %)	76.2	81.0	95.2	95.2	52.4	33.3	19.0	47.6	100.0	85.7	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	23.8	19.0	4.8	4.8	47.6	66.7	81.0	52.4	0.0	14.3	0.0	0.0
Net Change in % Exceedance:	52.4	61.9	90.5	90.5	4.8	-33.3	-61.9	-4.8	100.0	71.4	100.0	100.0
Net Change in 10% Exceedance	9.5	14.3	9.5	9.5	4.8	-14.3	0.0	0.0	33.3	9.5	23.8	76.2

**NODOS Alternative B relative to the Existing Condition  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	11.0	4.9	28.0	17.1	30.5	18.3	31.7	32.9	4.9	3.7	15.9	4.9
X ≥ 10.0	13.4	24.4	0.0	9.8	2.4	0.0	0.0	0.0	1.2	1.2	8.5	23.2
X > 0 (Total %)	96.3	84.1	63.4	37.8	29.3	14.6	23.2	29.3	96.3	91.5	87.8	87.8
X ≤ -10.0	0.0	0.0	1.2	1.2	0.0	31.7	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	3.7	15.9	36.6	62.2	70.7	85.4	76.8	70.7	3.7	8.5	12.2	12.2
Net Change in % Exceedance:	92.7	68.3	26.8	-24.4	-41.5	-70.7	-53.7	-41.5	92.7	82.9	75.6	75.6
Net Change in 10% Exceedance	13.4	24.4	-1.2	8.5	2.4	-31.7	0.0	0.0	1.2	1.2	8.5	23.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	2.4	3.7	0.0	2.4	8.5	13.4	7.3	0.0	2.4	1.2	0.0
X ≥ 10.0	9.5	4.8	0.0	38.1	9.5	0.0	0.0	0.0	4.8	4.8	33.3	57.1
X > 0 (Total %)	100.0	57.1	100.0	95.2	66.7	38.1	61.9	42.9	100.0	66.7	100.0	71.4
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	42.9	0.0	4.8	33.3	61.9	38.1	57.1	0.0	33.3	0.0	28.6
Net Change in % Exceedance:	100.0	14.3	100.0	90.5	33.3	-23.8	23.8	-14.3	100.0	33.3	100.0	42.9
Net Change in 10% Exceedance	9.5	4.8	0.0	33.3	9.5	-14.3	0.0	0.0	4.8	4.8	33.3	57.1

**NODOS Alternative B relative to the Existing Condition  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	17.1	13.4	15.9	8.5	15.9	11.0	23.2	28.0	4.9	3.7	14.6	14.6
X>=10.0	41.5	56.1	6.1	9.8	2.4	1.2	1.2	1.2	14.6	22.0	20.7	36.6
X>0 (Total %)	79.3	81.7	57.3	31.7	28.0	12.2	22.0	26.8	97.6	91.5	84.1	87.8
X<=-10.0	1.2	0.0	4.9	1.2	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	7.3	11.0	42.7	68.3	72.0	87.8	78.0	73.2	2.4	8.5	15.9	4.9
Net Change in % Exceedance:	72.0	70.7	14.6	-36.6	-43.9	-75.6	-56.1	-46.3	95.1	82.9	68.3	82.9
Net Change in 10% Exceedance	40.2	56.1	1.2	8.5	2.4	-39.0	1.2	1.2	14.6	22.0	20.7	36.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	8.5	4.9	0.0	3.7	8.5	13.4	9.8	0.0	2.4	2.4	7.3
X>=10.0	19.0	28.6	19.0	38.1	9.5	4.8	4.8	4.8	47.6	9.5	47.6	71.4
X>0 (Total %)	42.9	57.1	100.0	95.2	66.7	38.1	52.4	57.1	100.0	66.7	95.2	71.4
X<=-10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	4.8	14.3	0.0	4.8	33.3	61.9	47.6	42.9	0.0	33.3	4.8	0.0
Net Change in % Exceedance:	38.1	42.9	100.0	90.5	33.3	-23.8	4.8	14.3	100.0	33.3	90.5	71.4
Net Change in 10% Exceedance	19.0	28.6	19.0	33.3	9.5	-14.3	4.8	4.8	47.6	9.5	47.6	71.4

## **Alternative B Compared to No Action Alternative Condition Sacramento River**

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**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	28.0	22.0	9.8	20.7	26.8	65.9	25.6	18.3	9.8	42.7	24.4	14.6
X ≥ 10.0	2.4	2.4	51.2	39.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0	6.1
X > 0 (Total %)	35.4	65.9	84.1	72.0	89.0	34.1	19.5	17.1	7.3	34.1	30.5	59.8
X ≤ -10.0	0.0	0.0	0.0	2.4	0.0	6.1	29.3	13.4	1.2	0.0	0.0	2.4
X < 0 (Total %)	64.6	34.1	15.9	28.0	11.0	65.9	80.5	82.9	92.7	65.9	69.5	40.2
Net Change in % Exceedance:	-29.3	31.7	68.3	43.9	78.0	-31.7	-61.0	-65.9	-85.4	-31.7	-39.0	19.5
Net Change in 10% Exceedance	2.4	2.4	51.2	36.6	19.5	-6.1	-29.3	-13.4	-1.2	0.0	0.0	3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	6.1	6.1	0.0	1.2	18.3	1.2	0.0	7.3	2.4	6.1	1.2
X ≥ 10.0	0.0	0.0	38.1	81.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	23.8
X > 0 (Total %)	28.6	42.9	76.2	95.2	100.0	28.6	0.0	0.0	23.8	57.1	95.2	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	0.0	19.0	38.1	0.0	0.0	0.0	0.0
X < 0 (Total %)	71.4	57.1	23.8	4.8	0.0	71.4	100.0	100.0	76.2	42.9	4.8	0.0
Net Change in % Exceedance:	-42.9	-14.3	52.4	90.5	100.0	-42.9	-100.0	-100.0	-52.4	14.3	90.5	100.0
Net Change in 10% Exceedance	0.0	0.0	38.1	76.2	57.1	0.0	-19.0	-38.1	0.0	0.0	0.0	23.8

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	30.5	24.4	14.6	2.4	7.3	2.4	2.4	2.4	15.9	46.3	24.4	11.0
X ≥ 10.0	1.2	2.4	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5
X > 0 (Total %)	43.9	61.0	59.8	35.4	18.3	0.0	0.0	1.2	8.5	70.7	15.9	62.2
X ≤ -10.0	0.0	1.2	0.0	31.7	32.9	73.2	59.8	19.5	1.2	0.0	0.0	1.2
X < 0 (Total %)	56.1	39.0	40.2	64.6	81.7	100.0	100.0	98.8	91.5	29.3	84.1	37.8
Net Change in % Exceedance:	-12.2	22.0	19.5	-29.3	-63.4	-100.0	-100.0	-97.6	-82.9	41.5	-68.3	24.4
Net Change in 10% Exceedance	1.2	1.2	17.1	-31.7	-32.9	-73.2	-59.8	-19.5	-1.2	0.0	0.0	7.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	4.9	7.3	6.1	0.0	1.2	0.0	1.2	0.0	13.4	11.0	6.1	0.0
X ≥ 10.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
X > 0 (Total %)	28.6	42.9	76.2	95.2	47.6	0.0	0.0	0.0	33.3	71.4	61.9	100.0
X ≤ -10.0	0.0	4.8	0.0	4.8	4.8	61.9	57.1	33.3	0.0	0.0	0.0	0.0
X < 0 (Total %)	71.4	57.1	23.8	4.8	52.4	100.0	100.0	100.0	66.7	28.6	38.1	0.0
Net Change in % Exceedance:	-42.9	-14.3	52.4	90.5	-4.8	-100.0	-100.0	-100.0	-33.3	42.9	23.8	100.0
Net Change in 10% Exceedance	0.0	-4.8	14.3	-4.8	-4.8	-61.9	-57.1	-33.3	0.0	0.0	0.0	33.3

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	19.5	17.1	6.1	8.5	8.5	2.4	1.2	2.4	50.0	2.4	11.0	8.5
X>=10.0	1.2	1.2	13.4	2.4	0.0	0.0	0.0	0.0	0.0	3.7	0.0	8.5
X>0 (Total %)	52.4	65.9	51.2	29.3	17.1	1.2	0.0	0.0	28.0	100.0	15.9	63.4
X<=-10.0	0.0	1.2	8.5	34.1	36.6	82.9	79.3	40.2	1.2	0.0	0.0	0.0
X<0 (Total %)	47.6	34.1	48.8	70.7	82.9	98.8	100.0	100.0	72.0	0.0	84.1	36.6
Net Change in % Exceedance:	4.9	31.7	2.4	-41.5	-65.9	-97.6	-100.0	-100.0	-43.9	100.0	-68.3	26.8
Net Change in 10% Exceedance	1.2	0.0	4.9	-31.7	-36.6	-82.9	-79.3	-40.2	-1.2	3.7	0.0	8.5
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	3.7	3.7	3.7	3.7	0.0	0.0	0.0	11.0	0.0	8.5	0.0
X>=10.0	0.0	0.0	28.6	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
X>0 (Total %)	14.3	42.9	81.0	90.5	57.1	0.0	0.0	0.0	47.6	100.0	61.9	100.0
X<=-10.0	0.0	0.0	0.0	4.8	0.0	61.9	85.7	66.7	0.0	0.0	0.0	0.0
X<0 (Total %)	85.7	57.1	19.0	9.5	42.9	100.0	100.0	100.0	52.4	0.0	38.1	0.0
Net Change in % Exceedance:	-71.4	-14.3	61.9	81.0	14.3	-100.0	-100.0	-100.0	-4.8	100.0	23.8	100.0
Net Change in 10% Exceedance	0.0	0.0	28.6	4.8	0.0	-61.9	-85.7	-66.7	0.0	0.0	0.0	33.3

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	0.0	1.2	11.0	7.3	7.3	6.1	35.4	31.7	2.4	1.2	0.0	4.9
X>=10.0	47.6	63.4	31.7	8.5	1.2	0.0	0.0	0.0	22.0	93.9	25.6	70.7
X>0 (Total %)	98.8	95.1	58.5	31.7	26.8	11.0	18.3	63.4	96.3	100.0	100.0	100.0
X<=-10.0	0.0	1.2	12.2	29.3	19.5	69.5	19.5	9.8	1.2	0.0	0.0	0.0
X<0 (Total %)	1.2	4.9	41.5	68.3	73.2	87.8	81.7	36.6	3.7	0.0	0.0	0.0
Net Change in % Exceedance:	97.6	90.2	17.1	-36.6	-46.3	-76.8	-63.4	26.8	92.7	100.0	100.0	100.0
Net Change in 10% Exceedance	47.6	62.2	19.5	-20.7	-18.3	-69.5	-19.5	-9.8	20.7	93.9	25.6	70.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	1.2	1.2	3.7	20.7	9.8	0.0	0.0	0.0	0.0
X>=10.0	14.3	33.3	81.0	33.3	4.8	0.0	0.0	0.0	61.9	85.7	38.1	100.0
X>0 (Total %)	100.0	100.0	100.0	95.2	90.5	42.9	28.6	95.2	100.0	100.0	100.0	100.0
X<=-10.0	0.0	0.0	0.0	4.8	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	0.0	0.0	0.0	4.8	9.5	57.1	71.4	4.8	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	90.5	81.0	-14.3	-42.9	90.5	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	14.3	33.3	81.0	28.6	4.8	-42.9	0.0	0.0	61.9	85.7	38.1	100.0

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	3.7	3.7	22.0	24.4	30.5	9.8	36.6	25.6	2.4	0.0	0.0	3.7
X ≥ 10.0	50.0	68.3	31.7	8.5	2.4	0.0	0.0	0.0	51.2	97.6	42.7	72.0
X > 0 (Total %)	98.8	95.1	59.8	35.4	28.0	13.4	32.9	62.2	96.3	100.0	100.0	96.3
X ≤ -10.0	0.0	1.2	9.8	17.1	13.4	56.1	13.4	11.0	1.2	0.0	0.0	0.0
X < 0 (Total %)	1.2	4.9	40.2	64.6	72.0	86.6	57.3	30.5	3.7	0.0	0.0	2.4
Net Change in % Exceedance:	97.6	90.2	19.5	-29.3	-43.9	-73.2	-24.4	31.7	92.7	100.0	100.0	93.9
Net Change in 10% Exceedance	50.0	67.1	22.0	-8.5	-11.0	-56.1	-13.4	-11.0	50.0	97.6	42.7	72.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	3.7	0.0	0.0	0.0	1.2	2.4	15.9	9.8	0.0	0.0	0.0	0.0
X ≥ 10.0	19.0	47.6	81.0	33.3	9.5	0.0	0.0	0.0	85.7	100.0	71.4	100.0
X > 0 (Total %)	100.0	100.0	100.0	95.2	90.5	42.9	57.1	71.4	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	4.8	9.5	57.1	19.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	90.5	81.0	-14.3	38.1	71.4	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	19.0	47.6	81.0	33.3	9.5	-47.6	0.0	0.0	85.7	100.0	71.4	100.0

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	2.4	7.3	11.0	14.6	24.4	12.2	36.6	40.2	7.3	3.7	9.8	3.7
X ≥ 10.0	28.0	45.1	6.1	3.7	3.7	2.4	0.0	0.0	1.2	25.6	19.5	56.1
X > 0 (Total %)	84.1	92.7	40.2	35.4	24.4	12.2	32.9	43.9	95.1	100.0	91.5	100.0
X ≤ -10.0	0.0	0.0	1.2	4.9	1.2	34.1	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	15.9	7.3	59.8	64.6	75.6	87.8	67.1	56.1	4.9	0.0	8.5	0.0
Net Change in % Exceedance:	68.3	85.4	-19.5	-29.3	-51.2	-75.6	-34.1	-12.2	90.2	100.0	82.9	100.0
Net Change in 10% Exceedance	28.0	45.1	4.9	-1.2	2.4	-31.7	0.0	0.0	1.2	25.6	19.5	56.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	2.4	3.7	1.2	0.0	2.4	2.4	8.5	12.2	0.0	2.4	2.4	0.0
X ≥ 10.0	4.8	33.3	23.8	14.3	14.3	9.5	0.0	0.0	0.0	14.3	47.6	81.0
X > 0 (Total %)	42.9	95.2	76.2	95.2	52.4	38.1	47.6	66.7	90.5	100.0	95.2	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	57.1	4.8	23.8	4.8	47.6	61.9	52.4	33.3	9.5	0.0	4.8	0.0
Net Change in % Exceedance:	-14.3	90.5	52.4	90.5	4.8	-23.8	-4.8	33.3	81.0	100.0	90.5	100.0
Net Change in 10% Exceedance	4.8	33.3	23.8	9.5	14.3	-4.8	0.0	0.0	0.0	14.3	47.6	81.0

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	13.4	11.0	30.5	20.7	34.1	13.4	50.0	39.0	6.1	2.4	17.1	15.9
X ≥ 10.0	17.1	30.5	2.4	1.2	2.4	2.4	0.0	0.0	1.2	3.7	14.6	35.4
X > 0 (Total %)	97.6	89.0	40.2	32.9	20.7	14.6	39.0	46.3	95.1	96.3	100.0	96.3
X ≤ -10.0	0.0	0.0	1.2	2.4	2.4	30.5	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	2.4	11.0	59.8	67.1	79.3	85.4	61.0	53.7	4.9	3.7	0.0	3.7
Net Change in % Exceedance:	95.1	78.0	-19.5	-34.1	-58.5	-70.7	-22.0	-7.3	90.2	92.7	100.0	92.7
Net Change in 10% Exceedance	17.1	30.5	1.2	-1.2	0.0	-28.0	0.0	0.0	1.2	3.7	14.6	35.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	7.3	6.1	1.2	7.3	3.7	17.1	6.1	0.0	2.4	3.7	0.0
X ≥ 10.0	9.5	19.0	9.5	4.8	9.5	9.5	0.0	0.0	4.8	14.3	52.4	71.4
X > 0 (Total %)	95.2	85.7	76.2	85.7	47.6	52.4	76.2	66.7	100.0	85.7	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	4.8	14.3	23.8	14.3	52.4	47.6	23.8	33.3	0.0	14.3	0.0	0.0
Net Change in % Exceedance:	90.5	71.4	52.4	71.4	-4.8	4.8	52.4	33.3	100.0	71.4	100.0	100.0
Net Change in 10% Exceedance	9.5	19.0	9.5	0.0	4.8	-9.5	0.0	0.0	4.8	14.3	52.4	71.4

**NODOS Alternative B relative to the No Project/No Action Alternative  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	14.6	14.6	17.1	12.2	18.3	3.7	46.3	37.8	3.7	2.4	11.0	14.6
X ≥ 10.0	56.1	52.4	8.5	3.7	4.9	3.7	0.0	0.0	6.1	23.2	20.7	48.8
X > 0 (Total %)	84.1	85.4	45.1	26.8	20.7	14.6	32.9	46.3	96.3	97.6	97.6	89.0
X ≤ -10.0	0.0	0.0	1.2	1.2	0.0	39.0	2.4	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	2.4	7.3	54.9	73.2	79.3	85.4	67.1	53.7	3.7	2.4	2.4	3.7
Net Change in % Exceedance:	81.7	78.0	-9.8	-46.3	-58.5	-70.7	-34.1	-7.3	92.7	95.1	95.1	85.4
Net Change in 10% Exceedance	56.1	52.4	7.3	2.4	4.9	-35.4	-2.4	0.0	6.1	23.2	20.7	48.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	9.8	6.1	1.2	7.3	1.2	14.6	6.1	0.0	2.4	2.4	7.3
X ≥ 10.0	19.0	33.3	28.6	14.3	19.0	14.3	0.0	0.0	19.0	23.8	61.9	71.4
X > 0 (Total %)	42.9	71.4	81.0	85.7	47.6	47.6	61.9	57.1	100.0	90.5	95.2	71.4
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	4.8	0.0	19.0	14.3	52.4	52.4	38.1	42.9	0.0	9.5	4.8	0.0
Net Change in % Exceedance:	38.1	71.4	61.9	71.4	-4.8	-4.8	23.8	14.3	100.0	81.0	90.5	71.4
Net Change in 10% Exceedance	19.0	33.3	28.6	9.5	19.0	-4.8	0.0	0.0	19.0	23.8	61.9	71.4

## **Alternative C Compared to Existing Condition Sacramento River**

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**NODOS Alternative C relative to the Existing Condition  
Sacramento River below Keswick Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	11.0	25.6	26.8	42.7	36.6	65.9	20.7	24.4	12.2	63.4	15.9	12.2
X>=10.0	1.2	2.4	53.7	45.1	47.6	0.0	1.2	1.2	1.2	0.0	0.0	0.0
X>0 (Total %)	26.8	48.8	69.5	53.7	65.9	11.0	15.9	15.9	41.5	37.8	43.9	45.1
X<=-10.0	1.2	1.2	0.0	3.7	0.0	12.2	34.1	2.4	15.9	0.0	0.0	2.4
X<0 (Total %)	73.2	45.1	17.1	11.0	2.4	35.4	68.3	78.0	57.3	47.6	56.1	53.7
Net Change in % Exceedance:	-46.3	3.7	52.4	42.7	63.4	-24.4	-52.4	-62.2	-15.9	-9.8	-12.2	-8.5
Net Change in 10% Exceedance	0.0	1.2	53.7	41.5	47.6	-12.2	-32.9	-1.2	-14.6	0.0	0.0	-2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	1.2	4.9	20.7	22.0	15.9	25.6	7.3	8.5	4.9	9.8	1.2	0.0
X>=10.0	4.8	0.0	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	0.0
X>0 (Total %)	4.8	4.8	33.3	19.0	38.1	0.0	47.6	47.6	100.0	57.1	95.2	100.0
X<=-10.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	95.2	81.0	23.8	0.0	0.0	0.0	28.6	52.4	0.0	42.9	4.8	0.0
Net Change in % Exceedance:	-90.5	-76.2	9.5	19.0	38.1	0.0	19.0	-4.8	100.0	14.3	90.5	100.0
Net Change in 10% Exceedance	0.0	-4.8	4.8	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	0.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	14.6	11.0	20.7	26.8	37.8	18.3	22.0	8.5	47.6	24.4	25.6
X ≥ 10.0	3.7	1.2	43.9	37.8	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	31.7	62.2	90.2	74.4	93.9	48.8	25.6	19.5	4.9	64.6	36.6	46.3
X ≤ -10.0	3.7	6.1	0.0	0.0	0.0	3.7	18.3	2.4	1.2	0.0	0.0	4.9
X < 0 (Total %)	68.3	37.8	9.8	25.6	6.1	51.2	74.4	80.5	95.1	35.4	63.4	53.7
Net Change in % Exceedance:	-36.6	24.4	80.5	48.8	87.8	-2.4	-48.8	-61.0	-90.2	29.3	-26.8	-7.3
Net Change in 10% Exceedance	0.0	-4.9	43.9	37.8	31.7	-3.7	-18.3	-2.4	-1.2	0.0	0.0	-4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	2.4	1.2	0.0	0.0	3.7	1.2	1.2	7.3	3.7	8.5	4.9
X ≥ 10.0	4.8	0.0	23.8	81.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	4.8	23.8	95.2	95.2	100.0	52.4	0.0	0.0	14.3	81.0	76.2	81.0
X ≤ -10.0	14.3	23.8	0.0	0.0	0.0	0.0	42.9	9.5	0.0	0.0	0.0	0.0
X < 0 (Total %)	95.2	76.2	4.8	4.8	0.0	47.6	100.0	100.0	85.7	19.0	23.8	19.0
Net Change in % Exceedance:	-90.5	-52.4	90.5	90.5	100.0	4.8	-100.0	-100.0	-71.4	61.9	52.4	61.9
Net Change in 10% Exceedance	-9.5	-23.8	23.8	81.0	52.4	0.0	-42.9	-9.5	0.0	0.0	0.0	0.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	9.8	19.5	7.3	12.2	7.3	7.3	8.5	22.0	68.3	15.9	31.7	30.5
X ≥ 10.0	2.4	0.0	13.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	35.4	47.6	61.0	32.9	23.2	3.7	13.4	6.1	43.9	97.6	40.2	56.1
X ≤ -10.0	4.9	6.1	1.2	29.3	20.7	63.4	37.8	0.0	0.0	0.0	0.0	4.9
X < 0 (Total %)	64.6	52.4	39.0	67.1	76.8	96.3	86.6	93.9	56.1	2.4	59.8	43.9
Net Change in % Exceedance:	-29.3	-4.9	22.0	-34.1	-53.7	-92.7	-73.2	-87.8	-12.2	95.1	-19.5	12.2
Net Change in 10% Exceedance	-2.4	-6.1	12.2	-28.0	-20.7	-63.4	-37.8	0.0	0.0	0.0	0.0	-4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	2.4	3.7	6.1	1.2	0.0	0.0	0.0	19.5	7.3	9.8	3.7
X ≥ 10.0	4.8	0.0	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	4.8	19.0	90.5	90.5	52.4	0.0	4.8	0.0	85.7	90.5	71.4	85.7
X ≤ -10.0	19.0	23.8	0.0	0.0	4.8	57.1	57.1	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	95.2	81.0	9.5	9.5	47.6	100.0	95.2	100.0	14.3	9.5	28.6	14.3
Net Change in % Exceedance:	-90.5	-61.9	81.0	81.0	4.8	-100.0	-90.5	-100.0	71.4	81.0	42.9	71.4
Net Change in 10% Exceedance	-14.3	-23.8	4.8	4.8	-4.8	-57.1	-57.1	0.0	0.0	0.0	0.0	0.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	6.1	15.9	6.1	9.8	9.8	8.5	20.7	36.6	0.0	0.0	12.2	22.0
X ≥ 10.0	8.5	1.2	4.9	8.5	0.0	0.0	0.0	0.0	30.5	76.8	0.0	0.0
X > 0 (Total %)	40.2	51.2	50.0	24.4	19.5	3.7	18.3	26.8	100.0	100.0	64.6	50.0
X ≤ -10.0	15.9	7.3	11.0	31.7	30.5	68.3	43.9	13.4	0.0	0.0	0.0	3.7
X < 0 (Total %)	59.8	48.8	50.0	75.6	80.5	96.3	81.7	73.2	0.0	0.0	35.4	50.0
Net Change in % Exceedance:	-19.5	2.4	0.0	-51.2	-61.0	-92.7	-63.4	-46.3	100.0	100.0	29.3	0.0
Net Change in 10% Exceedance	-7.3	-6.1	-6.1	-23.2	-30.5	-68.3	-43.9	-13.4	30.5	76.8	0.0	-3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	1.2	3.7	3.7	4.9	2.4	0.0	9.8	0.0	0.0	2.4	2.4
X ≥ 10.0	4.8	0.0	14.3	33.3	0.0	0.0	0.0	0.0	23.8	42.9	0.0	0.0
X > 0 (Total %)	4.8	14.3	90.5	76.2	47.6	0.0	0.0	28.6	100.0	100.0	38.1	57.1
X ≤ -10.0	52.4	28.6	0.0	4.8	0.0	66.7	81.0	33.3	0.0	0.0	0.0	0.0
X < 0 (Total %)	95.2	85.7	9.5	23.8	52.4	100.0	100.0	71.4	0.0	0.0	61.9	42.9
Net Change in % Exceedance:	-90.5	-71.4	81.0	52.4	-4.8	-100.0	-100.0	-42.9	100.0	100.0	-23.8	14.3
Net Change in 10% Exceedance	-47.6	-28.6	14.3	28.6	0.0	-66.7	-81.0	-33.3	23.8	42.9	0.0	0.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	2.4	1.2	7.3	3.7	7.3	12.2	25.6	45.1	1.2	2.4	0.0	2.4
X ≥ 10.0	58.5	57.3	31.7	8.5	0.0	0.0	0.0	0.0	13.4	89.0	80.5	78.0
X > 0 (Total %)	95.1	93.9	48.8	20.7	20.7	12.2	18.3	64.6	96.3	98.8	100.0	100.0
X ≤ -10.0	0.0	2.4	23.2	47.6	40.2	63.4	8.5	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	4.9	6.1	51.2	79.3	79.3	86.6	81.7	35.4	3.7	1.2	0.0	0.0
Net Change in % Exceedance:	90.2	87.8	-2.4	-58.5	-58.5	-74.4	-63.4	29.3	92.7	97.6	100.0	100.0
Net Change in 10% Exceedance	58.5	54.9	8.5	-39.0	-40.2	-63.4	-8.5	-2.4	12.2	89.0	80.5	78.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	0.0	1.2	3.7	3.7	12.2	1.2	1.2	0.0	0.0
X ≥ 10.0	38.1	42.9	85.7	33.3	0.0	0.0	0.0	0.0	33.3	66.7	33.3	100.0
X > 0 (Total %)	100.0	100.0	100.0	76.2	71.4	38.1	14.3	85.7	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	23.8	28.6	61.9	85.7	14.3	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	52.4	42.9	-23.8	-71.4	71.4	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	38.1	42.9	85.7	28.6	0.0	-47.6	0.0	0.0	33.3	66.7	33.3	100.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	2.4	3.7	17.1	15.9	32.9	18.3	47.6	45.1	2.4	1.2	0.0	2.4
X ≥ 10.0	62.2	57.3	31.7	3.7	1.2	0.0	0.0	3.7	31.7	91.5	87.8	75.6
X > 0 (Total %)	95.1	93.9	48.8	24.4	24.4	11.0	43.9	48.8	96.3	98.8	100.0	97.6
X ≤ -10.0	0.0	1.2	15.9	32.9	26.8	56.1	7.3	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	4.9	6.1	51.2	75.6	75.6	89.0	51.2	41.5	3.7	1.2	0.0	1.2
Net Change in % Exceedance:	90.2	87.8	-2.4	-51.2	-51.2	-78.0	-7.3	7.3	92.7	97.6	100.0	96.3
Net Change in 10% Exceedance	62.2	56.1	15.9	-29.3	-25.6	-56.1	-7.3	1.2	30.5	91.5	87.8	75.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	1.2	4.9	1.2	8.5	2.4	0.0	1.2	0.0	0.0
X ≥ 10.0	38.1	42.9	81.0	14.3	4.8	0.0	0.0	0.0	52.4	76.2	57.1	100.0
X > 0 (Total %)	100.0	100.0	100.0	76.2	76.2	38.1	9.5	71.4	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	23.8	23.8	61.9	76.2	19.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	52.4	52.4	-23.8	-66.7	52.4	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	38.1	42.9	81.0	9.5	4.8	-52.4	0.0	0.0	52.4	76.2	57.1	100.0

**NODOS Alternative C relative to the Existing Condition  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	12.2	9.8	12.2	9.8	18.3	19.5	41.5	52.4	4.9	0.0	0.0	2.4
X ≥ 10.0	18.3	37.8	7.3	3.7	2.4	0.0	0.0	0.0	24.4	61.0	40.2	59.8
X > 0 (Total %)	82.9	89.0	25.6	31.7	26.8	19.5	39.0	34.1	96.3	100.0	100.0	97.6
X ≤ -10.0	1.2	1.2	4.9	28.0	18.3	40.2	2.4	1.2	0.0	0.0	0.0	0.0
X < 0 (Total %)	17.1	11.0	74.4	68.3	73.2	80.5	61.0	65.9	3.7	0.0	0.0	2.4
Net Change in % Exceedance:	65.9	78.0	-48.8	-36.6	-46.3	-61.0	-22.0	-31.7	92.7	100.0	100.0	95.1
Net Change in 10% Exceedance	17.1	36.6	2.4	-24.4	-15.9	-40.2	-2.4	-1.2	24.4	61.0	40.2	59.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	3.7	3.7	0.0	1.2	1.2	9.8	12.2	0.0	0.0	0.0	1.2
X ≥ 10.0	14.3	28.6	28.6	14.3	9.5	0.0	0.0	0.0	47.6	19.0	42.9	76.2
X > 0 (Total %)	66.7	81.0	76.2	95.2	57.1	33.3	14.3	61.9	100.0	100.0	100.0	90.5
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	33.3	19.0	23.8	4.8	42.9	66.7	85.7	38.1	0.0	0.0	0.0	9.5
Net Change in % Exceedance:	33.3	61.9	52.4	90.5	14.3	-33.3	-71.4	23.8	100.0	100.0	100.0	81.0
Net Change in 10% Exceedance	14.3	28.6	28.6	9.5	9.5	-14.3	0.0	0.0	47.6	19.0	42.9	76.2

**NODOS Alternative C relative to the Existing Condition  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	12.2	3.7	24.4	9.8	22.0	29.3	35.4	42.7	8.5	2.4	8.5	11.0
X ≥ 10.0	19.5	35.4	2.4	8.5	3.7	0.0	0.0	0.0	0.0	2.4	17.1	47.6
X > 0 (Total %)	96.3	85.4	51.2	34.1	26.8	25.6	37.8	29.3	93.9	96.3	100.0	91.5
X ≤ -10.0	0.0	1.2	4.9	20.7	7.3	36.6	0.0	1.2	0.0	1.2	0.0	0.0
X < 0 (Total %)	3.7	14.6	48.8	65.9	73.2	74.4	62.2	70.7	6.1	3.7	0.0	8.5
Net Change in % Exceedance:	92.7	70.7	2.4	-31.7	-46.3	-48.8	-24.4	-41.5	87.8	92.7	100.0	82.9
Net Change in 10% Exceedance	19.5	34.1	-2.4	-12.2	-3.7	-36.6	0.0	-1.2	0.0	1.2	17.1	47.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	1.2	4.9	0.0	1.2	7.3	9.8	9.8	0.0	2.4	0.0	1.2
X ≥ 10.0	14.3	9.5	9.5	33.3	14.3	0.0	0.0	0.0	0.0	9.5	66.7	61.9
X > 0 (Total %)	95.2	66.7	100.0	95.2	66.7	42.9	71.4	47.6	100.0	85.7	100.0	76.2
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	4.8	0.0	0.0
X < 0 (Total %)	4.8	33.3	0.0	4.8	33.3	57.1	28.6	52.4	0.0	14.3	0.0	23.8
Net Change in % Exceedance:	90.5	33.3	100.0	90.5	33.3	-14.3	42.9	-4.8	100.0	71.4	100.0	52.4
Net Change in 10% Exceedance	14.3	9.5	9.5	28.6	14.3	-19.0	0.0	0.0	0.0	4.8	66.7	61.9

**NODOS Alternative C relative to the Existing Condition  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	14.6	11.0	17.1	8.5	11.0	20.7	36.6	36.6	6.1	0.0	9.8	18.3
X ≥ 10.0	46.3	62.2	7.3	9.8	3.7	1.2	1.2	0.0	9.8	46.3	34.1	54.9
X > 0 (Total %)	82.9	85.4	52.4	30.5	23.2	24.4	39.0	28.0	95.1	96.3	92.7	91.5
X ≤ -10.0	1.2	0.0	12.2	23.2	11.0	41.5	0.0	2.4	0.0	1.2	0.0	0.0
X < 0 (Total %)	4.9	8.5	47.6	69.5	76.8	75.6	61.0	72.0	4.9	3.7	7.3	3.7
Net Change in % Exceedance:	78.0	76.8	4.9	-39.0	-53.7	-51.2	-22.0	-43.9	90.2	92.7	85.4	87.8
Net Change in 10% Exceedance	45.1	62.2	-4.9	-13.4	-7.3	-40.2	1.2	-2.4	9.8	45.1	34.1	54.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	7.3	3.7	0.0	0.0	6.1	13.4	11.0	0.0	0.0	0.0	6.1
X ≥ 10.0	19.0	42.9	28.6	38.1	14.3	4.8	4.8	0.0	28.6	28.6	76.2	66.7
X > 0 (Total %)	52.4	66.7	85.7	95.2	66.7	42.9	76.2	61.9	100.0	85.7	100.0	81.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	4.8	0.0	0.0
X < 0 (Total %)	0.0	9.5	14.3	4.8	33.3	57.1	23.8	38.1	0.0	14.3	0.0	0.0
Net Change in % Exceedance:	52.4	57.1	71.4	90.5	33.3	-14.3	52.4	23.8	100.0	71.4	100.0	81.0
Net Change in 10% Exceedance	19.0	42.9	28.6	33.3	14.3	-14.3	4.8	0.0	28.6	23.8	76.2	66.7

## **Alternative C Compared to No Action Alternative Condition Sacramento River**

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**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River below Keswick Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	9.8	11.0	19.5	40.2	36.6	62.2	29.3	23.2	26.8	35.4	17.1	8.5
X>=10.0	1.2	13.4	56.1	41.5	47.6	0.0	0.0	1.2	1.2	0.0	0.0	3.7
X>0 (Total %)	34.1	75.6	74.4	54.9	61.0	4.9	6.1	14.6	36.6	15.9	31.7	34.1
X<=-10.0	2.4	0.0	0.0	3.7	0.0	13.4	28.0	2.4	18.3	0.0	0.0	6.1
X<0 (Total %)	65.9	18.3	9.8	8.5	6.1	42.7	78.0	78.0	62.2	70.7	68.3	65.9
Net Change in % Exceedance:	-31.7	57.3	64.6	46.3	54.9	-37.8	-72.0	-63.4	-25.6	-54.9	-36.6	-31.7
Net Change in 10% Exceedance	-1.2	13.4	56.1	37.8	47.6	-13.4	-28.0	-1.2	-17.1	0.0	0.0	-2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	4.9	6.1	14.6	22.0	15.9	25.6	8.5	4.9	13.4	4.9	0.0	0.0
X>=10.0	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3
X>0 (Total %)	28.6	14.3	47.6	19.0	38.1	0.0	19.0	42.9	100.0	57.1	95.2	100.0
X<=-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X<0 (Total %)	71.4	66.7	0.0	0.0	0.0	0.0	52.4	57.1	0.0	42.9	4.8	0.0
Net Change in % Exceedance:	-42.9	-52.4	47.6	19.0	38.1	0.0	-33.3	-14.3	100.0	14.3	90.5	100.0
Net Change in 10% Exceedance	4.8	0.0	9.5	9.5	38.1	0.0	0.0	4.8	4.8	0.0	0.0	14.3

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River at Bend Bridge, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	18.3	7.3	6.1	24.4	28.0	62.2	29.3	25.6	2.4	24.4	19.5	26.8
X>=10.0	3.7	1.2	51.2	36.6	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	29.3	75.6	89.0	70.7	85.4	26.8	17.1	17.1	6.1	23.2	28.0	46.3
X<=-10.0	4.9	4.9	0.0	1.2	0.0	3.7	8.5	3.7	2.4	0.0	0.0	6.1
X<0 (Total %)	70.7	24.4	11.0	29.3	14.6	73.2	82.9	82.9	93.9	76.8	72.0	53.7
Net Change in % Exceedance:	-41.5	51.2	78.0	41.5	70.7	-46.3	-65.9	-65.9	-87.8	-53.7	-43.9	-7.3
Net Change in 10% Exceedance	-1.2	-3.7	51.2	35.4	17.1	-3.7	-8.5	-3.7	-2.4	0.0	0.0	-6.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	1.2	0.0	1.2	13.4	1.2	0.0	0.0	2.4	4.9	4.9
X>=10.0	4.8	0.0	38.1	81.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X>0 (Total %)	4.8	23.8	95.2	95.2	100.0	14.3	0.0	0.0	14.3	47.6	95.2	100.0
X<=-10.0	19.0	19.0	0.0	4.8	0.0	0.0	28.6	14.3	0.0	0.0	0.0	0.0
X<0 (Total %)	95.2	76.2	4.8	4.8	0.0	85.7	100.0	100.0	85.7	52.4	4.8	0.0
Net Change in % Exceedance:	-90.5	-52.4	90.5	90.5	100.0	-71.4	-100.0	-100.0	-71.4	-4.8	90.5	100.0
Net Change in 10% Exceedance	-14.3	-19.0	38.1	76.2	47.6	0.0	-28.6	-14.3	0.0	0.0	0.0	0.0

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River below Red Bluff Diversion Dam, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	11.0	7.3	8.5	8.5	8.5	13.4	19.5	48.8	19.5	29.3	25.6
X ≥ 10.0	2.4	4.9	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	35.4	65.9	67.1	31.7	20.7	0.0	8.5	4.9	15.9	80.5	25.6	48.8
X ≤ -10.0	4.9	4.9	1.2	31.7	29.3	63.4	25.6	0.0	2.4	0.0	0.0	6.1
X < 0 (Total %)	64.6	34.1	32.9	68.3	79.3	100.0	91.5	95.1	84.1	19.5	74.4	51.2
Net Change in % Exceedance:	-29.3	31.7	34.1	-36.6	-58.5	-100.0	-82.9	-90.2	-68.3	61.0	-48.8	-2.4
Net Change in 10% Exceedance	-2.4	0.0	18.3	-31.7	-29.3	-63.4	-25.6	0.0	-2.4	0.0	0.0	-6.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	1.2	1.2	3.7	1.2	0.0	1.2	0.0	17.1	8.5	7.3	3.7
X ≥ 10.0	4.8	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	4.8	23.8	95.2	76.2	47.6	0.0	4.8	0.0	33.3	90.5	71.4	100.0
X ≤ -10.0	19.0	19.0	0.0	4.8	4.8	52.4	47.6	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	95.2	76.2	4.8	23.8	52.4	100.0	95.2	100.0	66.7	9.5	28.6	0.0
Net Change in % Exceedance:	-90.5	-52.4	90.5	52.4	-4.8	-100.0	-90.5	-100.0	-33.3	81.0	42.9	100.0
Net Change in 10% Exceedance	-14.3	-19.0	23.8	-4.8	-4.8	-52.4	-47.6	0.0	0.0	0.0	0.0	0.0

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River below Hamilton City, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	12.2	9.8	8.5	8.5	15.9	8.5	15.9	18.3	1.2	0.0	20.7	19.5
X>=10.0	2.4	3.7	15.9	1.2	0.0	0.0	0.0	0.0	20.7	72.0	0.0	0.0
X>0 (Total %)	48.8	59.8	52.4	26.8	18.3	4.9	7.3	32.9	100.0	100.0	78.0	57.3
X<=-10.0	11.0	3.7	9.8	34.1	34.1	65.9	32.9	11.0	0.0	0.0	0.0	6.1
X<0 (Total %)	51.2	40.2	47.6	73.2	81.7	95.1	92.7	67.1	0.0	0.0	22.0	42.7
Net Change in % Exceedance:	-2.4	19.5	4.9	-46.3	-63.4	-90.2	-85.4	-34.1	100.0	100.0	56.1	14.6
Net Change in 10% Exceedance	-8.5	0.0	6.1	-32.9	-34.1	-65.9	-32.9	-11.0	20.7	72.0	0.0	-6.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	2.4	1.2	3.7	6.1	1.2	0.0	3.7	0.0	0.0	8.5	2.4
X>=10.0	4.8	0.0	28.6	4.8	0.0	0.0	0.0	0.0	42.9	61.9	0.0	0.0
X>0 (Total %)	4.8	19.0	95.2	81.0	47.6	0.0	0.0	42.9	100.0	100.0	61.9	100.0
X<=-10.0	42.9	14.3	0.0	4.8	0.0	57.1	81.0	33.3	0.0	0.0	0.0	0.0
X<0 (Total %)	95.2	81.0	4.8	19.0	52.4	100.0	100.0	57.1	0.0	0.0	38.1	0.0
Net Change in % Exceedance:	-90.5	-61.9	90.5	61.9	-4.8	-100.0	-100.0	-14.3	100.0	100.0	23.8	100.0
Net Change in 10% Exceedance	-38.1	-14.3	28.6	0.0	0.0	-57.1	-81.0	-33.3	42.9	61.9	0.0	0.0

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River below Delevan Intake and Pipeline, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	0.0	1.2	1.2	8.5	7.3	12.2	47.6	32.9	4.9	0.0	0.0	3.7
X ≥ 10.0	59.8	84.1	36.6	4.9	2.4	0.0	0.0	2.4	8.5	96.3	80.5	73.2
X > 0 (Total %)	98.8	95.1	50.0	19.5	18.3	12.2	31.7	72.0	95.1	100.0	100.0	100.0
X ≤ -10.0	0.0	2.4	17.1	50.0	42.7	63.4	9.8	2.4	1.2	0.0	0.0	0.0
X < 0 (Total %)	1.2	4.9	50.0	80.5	81.7	86.6	68.3	28.0	4.9	0.0	0.0	0.0
Net Change in % Exceedance:	97.6	90.2	0.0	-61.0	-63.4	-74.4	-36.6	43.9	90.2	100.0	100.0	100.0
Net Change in 10% Exceedance	59.8	81.7	19.5	-45.1	-40.2	-63.4	-9.8	0.0	7.3	96.3	80.5	73.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	4.9	2.4	3.7	22.0	11.0	1.2	0.0	0.0	0.0
X ≥ 10.0	28.6	90.5	100.0	19.0	9.5	0.0	0.0	0.0	33.3	95.2	47.6	100.0
X > 0 (Total %)	100.0	100.0	100.0	71.4	61.9	38.1	66.7	90.5	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	47.6	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	28.6	38.1	61.9	33.3	9.5	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	42.9	23.8	-23.8	33.3	81.0	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	28.6	90.5	100.0	14.3	4.8	-47.6	0.0	0.0	33.3	95.2	47.6	100.0

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River at Wilken Slough, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	0.0	2.4	11.0	17.1	30.5	20.7	35.4	29.3	4.9	0.0	0.0	3.7
X ≥ 10.0	64.6	85.4	36.6	2.4	4.9	0.0	0.0	3.7	32.9	97.6	89.0	72.0
X > 0 (Total %)	98.8	95.1	51.2	23.2	20.7	14.6	51.2	64.6	97.6	100.0	100.0	96.3
X ≤ -10.0	0.0	1.2	14.6	32.9	28.0	56.1	9.8	3.7	1.2	0.0	0.0	0.0
X < 0 (Total %)	1.2	4.9	48.8	76.8	79.3	85.4	37.8	28.0	2.4	0.0	0.0	2.4
Net Change in % Exceedance:	97.6	90.2	2.4	-53.7	-58.5	-70.7	13.4	36.6	95.1	100.0	100.0	93.9
Net Change in 10% Exceedance	64.6	84.1	22.0	-30.5	-23.2	-56.1	-9.8	0.0	31.7	97.6	89.0	72.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	0.0	1.2	2.4	2.4	12.2	9.8	0.0	0.0	0.0	0.0
X ≥ 10.0	38.1	95.2	100.0	9.5	19.0	0.0	0.0	0.0	76.2	95.2	71.4	100.0
X > 0 (Total %)	100.0	100.0	100.0	71.4	66.7	42.9	57.1	71.4	100.0	100.0	100.0	100.0
X ≤ -10.0	0.0	0.0	0.0	4.8	4.8	52.4	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	0.0	0.0	28.6	33.3	57.1	19.0	0.0	0.0	0.0	0.0	0.0
Net Change in % Exceedance:	100.0	100.0	100.0	42.9	33.3	-14.3	38.1	71.4	100.0	100.0	100.0	100.0
Net Change in 10% Exceedance	38.1	95.2	100.0	4.8	14.3	-52.4	0.0	0.0	76.2	95.2	71.4	100.0

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River at Verona, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	8.5	6.1	18.3	8.5	23.2	20.7	42.7	51.2	12.2	0.0	0.0	4.9
X ≥ 10.0	26.8	57.3	11.0	4.9	3.7	2.4	0.0	0.0	8.5	46.3	39.0	57.3
X > 0 (Total %)	84.1	91.5	24.4	32.9	22.0	20.7	39.0	54.9	92.7	100.0	100.0	97.6
X ≤ -10.0	0.0	0.0	4.9	28.0	17.1	36.6	1.2	1.2	0.0	0.0	0.0	0.0
X < 0 (Total %)	15.9	8.5	75.6	67.1	78.0	79.3	61.0	45.1	7.3	0.0	0.0	2.4
Net Change in % Exceedance:	68.3	82.9	-51.2	-34.1	-56.1	-58.5	-22.0	9.8	85.4	100.0	100.0	95.1
Net Change in 10% Exceedance	26.8	57.3	6.1	-23.2	-13.4	-34.1	-1.2	-1.2	8.5	46.3	39.0	57.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	0.0	3.7	0.0	2.4	1.2	12.2	11.0	3.7	0.0	0.0	1.2
X ≥ 10.0	14.3	47.6	42.9	19.0	14.3	9.5	0.0	0.0	4.8	28.6	52.4	76.2
X > 0 (Total %)	42.9	100.0	61.9	95.2	47.6	42.9	42.9	71.4	95.2	100.0	100.0	95.2
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	57.1	0.0	38.1	4.8	52.4	57.1	57.1	28.6	4.8	0.0	0.0	4.8
Net Change in % Exceedance:	-14.3	100.0	23.8	90.5	-4.8	-14.3	-14.3	42.9	90.5	100.0	100.0	90.5
Net Change in 10% Exceedance	14.3	47.6	42.9	14.3	14.3	-9.5	0.0	0.0	4.8	28.6	52.4	76.2

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River at Freeport, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	8.5	6.1	28.0	12.2	31.7	24.4	45.1	51.2	8.5	1.2	0.0	13.4
X ≥ 10.0	22.0	41.5	4.9	1.2	4.9	4.9	0.0	0.0	0.0	4.9	19.5	50.0
X > 0 (Total %)	98.8	91.5	32.9	28.0	19.5	22.0	47.6	58.5	95.1	100.0	100.0	95.1
X ≤ -10.0	0.0	0.0	3.7	23.2	9.8	31.7	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	1.2	8.5	67.1	72.0	80.5	78.0	51.2	41.5	4.9	0.0	0.0	4.9
Net Change in % Exceedance:	97.6	82.9	-34.1	-43.9	-61.0	-56.1	-3.7	17.1	90.2	100.0	100.0	90.2
Net Change in 10% Exceedance	22.0	41.5	1.2	-22.0	-4.9	-26.8	0.0	0.0	0.0	4.9	19.5	50.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	4.9	4.9	1.2	11.0	1.2	11.0	4.9	1.2	1.2	0.0	1.2
X ≥ 10.0	9.5	23.8	19.0	4.8	19.0	19.0	0.0	0.0	0.0	19.0	71.4	66.7
X > 0 (Total %)	100.0	95.2	66.7	85.7	38.1	52.4	90.5	61.9	100.0	100.0	100.0	95.2
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	0.0	4.8	33.3	14.3	61.9	47.6	9.5	38.1	0.0	0.0	0.0	4.8
Net Change in % Exceedance:	100.0	90.5	33.3	71.4	-23.8	4.8	81.0	23.8	100.0	100.0	100.0	90.5
Net Change in 10% Exceedance	9.5	23.8	19.0	0.0	19.0	0.0	0.0	0.0	0.0	19.0	71.4	66.7

**NODOS Alternative C relative to the No Project/No Action Alternative  
Sacramento River at Rio Vista, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	9.8	15.9	8.5	18.3	12.2	45.1	47.6	3.7	1.2	0.0	13.4
X ≥ 10.0	58.5	65.9	8.5	3.7	4.9	4.9	0.0	0.0	3.7	30.5	35.4	52.4
X > 0 (Total %)	86.6	86.6	40.2	26.8	17.1	20.7	43.9	50.0	93.9	98.8	100.0	90.2
X ≤ -10.0	0.0	0.0	9.8	25.6	12.2	39.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	2.4	7.3	59.8	73.2	82.9	79.3	56.1	50.0	6.1	1.2	0.0	4.9
Net Change in % Exceedance:	84.1	79.3	-19.5	-46.3	-65.9	-58.5	-12.2	0.0	87.8	97.6	100.0	85.4
Net Change in 10% Exceedance	58.5	65.9	-1.2	-22.0	-7.3	-34.1	0.0	0.0	3.7	30.5	35.4	52.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	6.1	4.9	1.2	6.1	0.0	8.5	6.1	0.0	1.2	0.0	6.1
X ≥ 10.0	14.3	52.4	33.3	14.3	19.0	19.0	0.0	0.0	9.5	52.4	81.0	66.7
X > 0 (Total %)	52.4	76.2	81.0	85.7	47.6	47.6	76.2	57.1	95.2	95.2	100.0	81.0
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
X < 0 (Total %)	4.8	0.0	19.0	14.3	52.4	52.4	23.8	42.9	4.8	4.8	0.0	0.0
Net Change in % Exceedance:	47.6	76.2	61.9	71.4	-4.8	-4.8	52.4	14.3	90.5	90.5	100.0	81.0
Net Change in 10% Exceedance	14.3	52.4	33.3	9.5	19.0	0.0	0.0	0.0	9.5	52.4	81.0	66.7

# **No Action Alternative Compared to Existing Condition Feather River**

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**The No Project/No Action Alternative relative to the Existing Condition  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	50.0	79.3	47.6	73.2	63.4	56.1	87.8	65.9	20.7	32.9	13.4	29.3
X>=10.0	0.0	0.0	8.5	4.9	0.0	1.2	0.0	1.2	17.1	0.0	22.0	12.2
X>0 (Total %)	6.1	3.7	36.6	42.7	23.2	29.3	56.1	61.0	93.9	78.0	81.7	75.6
X<=-10.0	14.6	8.5	7.3	12.2	14.6	7.3	0.0	1.2	0.0	2.4	0.0	0.0
X<0 (Total %)	57.3	37.8	34.1	29.3	53.7	50.0	19.5	18.3	3.7	13.4	18.3	15.9
Net Change in % Exceedance:	-51.2	-34.1	2.4	13.4	-30.5	-20.7	36.6	42.7	90.2	64.6	63.4	59.8
Net Change in 10% Exceedance	-14.6	-8.5	1.2	-7.3	-14.6	-6.1	0.0	0.0	17.1	-2.4	22.0	12.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	20.7	23.2	20.7	22.0	22.0	22.0	24.4	25.6	4.9	7.3	2.4	9.8
X>=10.0	0.0	0.0	0.0	9.5	0.0	4.8	0.0	0.0	42.9	0.0	42.9	23.8
X>0 (Total %)	19.0	9.5	4.8	57.1	19.0	23.8	52.4	33.3	85.7	57.1	90.5	71.4
X<=-10.0	0.0	0.0	4.8	0.0	9.5	0.0	0.0	0.0	0.0	9.5	0.0	0.0
X<0 (Total %)	28.6	28.6	57.1	14.3	33.3	28.6	14.3	14.3	4.8	42.9	9.5	14.3
Net Change in % Exceedance:	-9.5	-19.0	-52.4	42.9	-14.3	-4.8	38.1	19.0	81.0	14.3	81.0	57.1
Net Change in 10% Exceedance	0.0	0.0	-4.8	9.5	-9.5	4.8	0.0	0.0	42.9	-9.5	42.9	23.8

The No Project/No Action Alternative relative to the Existing Condition  
Feather River at Shanghai Bend, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	42.7	62.2	34.1	47.6	48.8	63.4	93.9	69.5	20.7	31.7	26.8	28.0
X ≥ 10.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	1.2	4.9	0.0	7.3	8.5
X > 0 (Total %)	13.4	8.5	46.3	40.2	34.1	30.5	58.5	65.9	96.3	84.1	82.9	89.0
X ≤ -10.0	11.0	2.4	2.4	2.4	2.4	6.1	0.0	1.2	0.0	3.7	2.4	0.0
X < 0 (Total %)	86.6	76.8	46.3	51.2	63.4	53.7	26.8	30.5	3.7	15.9	17.1	11.0
Net Change in % Exceedance:	-73.2	-68.3	0.0	-11.0	-29.3	-23.2	31.7	35.4	92.7	68.3	65.9	78.0
Net Change in 10% Exceedance	-11.0	-2.4	0.0	-2.4	-2.4	-6.1	0.0	0.0	4.9	-3.7	4.9	8.5
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	17.1	18.3	12.2	8.5	13.4	22.0	23.2	15.9	0.0	6.1	2.4	9.8
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	19.0	14.3
X > 0 (Total %)	42.9	19.0	33.3	85.7	52.4	19.0	52.4	52.4	95.2	57.1	81.0	100.0
X ≤ -10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	9.5	0.0
X < 0 (Total %)	57.1	38.1	52.4	0.0	42.9	28.6	33.3	47.6	4.8	42.9	19.0	0.0
Net Change in % Exceedance:	-14.3	-19.0	-19.0	85.7	9.5	-9.5	19.0	4.8	90.5	14.3	61.9	100.0
Net Change in 10% Exceedance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	-14.3	9.5	14.3

The No Project/No Action Alternative relative to the Existing Condition  
Feather River at Mouth, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	31.7	47.6	36.6	56.1	57.3	46.3	91.5	78.0	28.0	36.6	36.6	14.6
X ≥ 10.0	0.0	0.0	6.1	0.0	2.4	1.2	0.0	0.0	4.9	0.0	12.2	4.9
X > 0 (Total %)	15.9	37.8	62.2	41.5	43.9	37.8	61.0	58.5	84.1	79.3	72.0	79.3
X ≤ -10.0	2.4	0.0	1.2	1.2	1.2	3.7	0.0	1.2	0.0	2.4	3.7	0.0
X < 0 (Total %)	78.0	57.3	29.3	57.3	53.7	59.8	28.0	30.5	15.9	19.5	24.4	20.7
Net Change in % Exceedance:	-62.2	-19.5	32.9	-15.9	-9.8	-22.0	32.9	28.0	68.3	59.8	47.6	58.5
Net Change in 10% Exceedance	-2.4	0.0	4.9	-1.2	1.2	-2.4	0.0	-1.2	4.9	-2.4	8.5	4.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	71.4	13.4	14.6	7.3	11.0	8.5	19.5	17.1	1.2	12.2	6.1	4.9
X ≥ 10.0	0.0	0.0	9.5	0.0	9.5	0.0	0.0	0.0	9.5	0.0	28.6	4.8
X > 0 (Total %)	47.6	66.7	42.9	23.8	42.9	9.5	33.3	42.9	95.2	42.9	52.4	52.4
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	4.8	0.0	0.0	0.0	9.5	14.3	0.0
X < 0 (Total %)	28.6	14.3	23.8	71.4	47.6	81.0	23.8	14.3	4.8	52.4	33.3	47.6
Net Change in % Exceedance:	19.0	52.4	19.0	-47.6	-4.8	-71.4	9.5	28.6	90.5	-9.5	19.0	4.8
Net Change in 10% Exceedance	0.0	0.0	9.5	-4.8	9.5	-4.8	0.0	0.0	9.5	-9.5	14.3	4.8

## **Alternative A Compared to Existing Condition Feather River**

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**NODOS Alternative A relative to the Existing Condition  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	36.6	78.0	43.9	73.2	54.9	65.9	74.4	59.8	19.5	37.8	7.3	6.1
X ≥ 10.0	0.0	0.0	0.0	2.4	6.1	2.4	0.0	0.0	28.0	11.0	26.8	45.1
X > 0 (Total %)	1.2	0.0	4.9	25.6	18.3	35.4	28.0	30.5	89.0	59.8	63.4	93.9
X ≤ -10.0	51.2	13.4	31.7	11.0	11.0	0.0	7.3	19.5	0.0	1.2	18.3	0.0
X < 0 (Total %)	75.6	46.3	78.0	51.2	75.6	40.2	70.7	58.5	11.0	31.7	36.6	1.2
Net Change in % Exceedance:	-74.4	-46.3	-73.2	-25.6	-57.3	-4.9	-42.7	-28.0	78.0	28.0	26.8	92.7
Net Change in 10% Exceedance	-51.2	-13.4	-31.7	-8.5	-4.9	2.4	-7.3	-19.5	28.0	9.8	8.5	45.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	20.7	17.1	23.2	22.0	19.5	22.0	20.7	0.0	1.2	2.4	1.2
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	100.0	42.9	76.2	76.2
X > 0 (Total %)	4.8	0.0	0.0	19.0	0.0	23.8	9.5	23.8	100.0	90.5	90.5	100.0
X ≤ -10.0	28.6	9.5	14.3	4.8	0.0	0.0	9.5	9.5	0.0	4.8	0.0	0.0
X < 0 (Total %)	57.1	47.6	71.4	61.9	85.7	28.6	85.7	33.3	0.0	9.5	9.5	0.0
Net Change in % Exceedance:	-52.4	-47.6	-71.4	-42.9	-85.7	-4.8	-76.2	-9.5	100.0	81.0	81.0	100.0
Net Change in 10% Exceedance	-28.6	-9.5	-14.3	-4.8	0.0	4.8	-9.5	-9.5	100.0	38.1	76.2	76.2

**NODOS Alternative A relative to the Existing Condition  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	25.6	25.6	19.5	45.1	43.9	50.0	58.5	41.5	15.9	47.6	3.7	8.5
X ≥ 10.0	0.0	0.0	0.0	1.2	3.7	0.0	0.0	0.0	29.3	7.3	22.0	32.9
X > 0 (Total %)	3.7	4.9	4.9	29.3	17.1	50.0	32.9	25.6	96.3	75.6	62.2	98.8
X ≤ -10.0	50.0	3.7	23.2	2.4	2.4	1.2	1.2	6.1	0.0	2.4	8.5	0.0
X < 0 (Total %)	96.3	89.0	86.6	59.8	78.0	43.9	61.0	73.2	3.7	24.4	37.8	1.2
Net Change in % Exceedance:	-92.7	-84.1	-81.7	-30.5	-61.0	6.1	-28.0	-47.6	92.7	51.2	24.4	97.6
Net Change in 10% Exceedance	-50.0	-3.7	-23.2	-1.2	1.2	-1.2	-1.2	-6.1	29.3	4.9	13.4	32.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	9.8	11.0	11.0	12.2	12.2	11.0	3.7	1.2	2.4	0.0	2.4
X ≥ 10.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	23.8	28.6	66.7	47.6
X > 0 (Total %)	14.3	9.5	4.8	57.1	0.0	38.1	4.8	0.0	95.2	76.2	71.4	95.2
X ≤ -10.0	28.6	4.8	19.0	4.8	0.0	0.0	0.0	19.0	0.0	9.5	9.5	0.0
X < 0 (Total %)	85.7	90.5	71.4	38.1	81.0	52.4	85.7	100.0	4.8	23.8	28.6	4.8
Net Change in % Exceedance:	-71.4	-81.0	-66.7	19.0	-81.0	-14.3	-81.0	-100.0	90.5	52.4	42.9	90.5
Net Change in 10% Exceedance	-28.6	-4.8	-19.0	0.0	0.0	0.0	0.0	-19.0	23.8	19.0	57.1	47.6

**NODOS Alternative A relative to the Existing Condition  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	11.0	17.1	23.2	54.9	58.5	50.0	73.2	56.1	18.3	39.0	12.2	4.9
X ≥ 10.0	0.0	0.0	3.7	1.2	0.0	1.2	0.0	0.0	34.1	6.1	25.6	29.3
X > 0 (Total %)	4.9	31.7	14.6	40.2	51.2	58.5	50.0	35.4	76.8	70.7	53.7	92.7
X ≤ -10.0	43.9	2.4	36.6	2.4	2.4	1.2	1.2	7.3	1.2	1.2	7.3	2.4
X < 0 (Total %)	91.5	64.6	80.5	58.5	45.1	40.2	40.2	52.4	23.2	29.3	46.3	7.3
Net Change in % Exceedance:	-86.6	-32.9	-65.9	-18.3	6.1	18.3	9.8	-17.1	53.7	41.5	7.3	85.4
Net Change in 10% Exceedance	-43.9	-2.4	-32.9	-1.2	-2.4	0.0	-1.2	-7.3	32.9	4.9	18.3	26.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	12.2	13.4	7.3	13.4	11.0	14.6	17.1	3.7	6.1	0.0	1.2
X ≥ 10.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	14.3	23.8	76.2	28.6
X > 0 (Total %)	14.3	81.0	28.6	9.5	28.6	47.6	9.5	9.5	47.6	85.7	76.2	81.0
X ≤ -10.0	9.5	0.0	0.0	4.8	4.8	4.8	4.8	28.6	4.8	4.8	19.0	9.5
X < 0 (Total %)	71.4	4.8	52.4	85.7	57.1	47.6	52.4	42.9	52.4	14.3	23.8	19.0
Net Change in % Exceedance:	-57.1	76.2	-23.8	-76.2	-28.6	0.0	-42.9	-33.3	-4.8	71.4	52.4	61.9
Net Change in 10% Exceedance	-9.5	0.0	9.5	-4.8	-4.8	-4.8	-4.8	-28.6	9.5	19.0	57.1	19.0

## **Alternative A Compared to No Action Alternative Condition Feather River**

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**NODOS Alternative A relative to the No Project/No Action Alternative  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	41.5	80.5	41.5	76.8	68.3	57.3	74.4	56.1	15.9	36.6	6.1	15.9
X ≥ 10.0	0.0	1.2	2.4	3.7	12.2	9.8	0.0	0.0	22.0	13.4	20.7	25.6
X > 0 (Total %)	1.2	6.1	7.3	20.7	30.5	48.8	8.5	17.1	62.2	32.9	52.4	89.0
X ≤ -10.0	47.6	3.7	31.7	4.9	1.2	0.0	6.1	24.4	2.4	1.2	29.3	0.0
X < 0 (Total %)	70.7	37.8	78.0	61.0	63.4	31.7	89.0	65.9	36.6	53.7	47.6	6.1
Net Change in % Exceedance:	-69.5	-31.7	-70.7	-40.2	-32.9	17.1	-80.5	-48.8	25.6	-20.7	4.9	82.9
Net Change in 10% Exceedance	-47.6	-2.4	-29.3	-1.2	11.0	9.8	-6.1	-24.4	19.5	12.2	-8.5	25.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	15.9	20.7	17.1	23.2	23.2	20.7	22.0	20.7	0.0	1.2	0.0	2.4
X ≥ 10.0	0.0	0.0	4.8	0.0	4.8	4.8	0.0	0.0	85.7	52.4	71.4	57.1
X > 0 (Total %)	4.8	0.0	14.3	14.3	9.5	33.3	0.0	9.5	100.0	76.2	71.4	95.2
X ≤ -10.0	28.6	9.5	14.3	9.5	0.0	0.0	9.5	9.5	0.0	4.8	14.3	0.0
X < 0 (Total %)	57.1	42.9	57.1	71.4	71.4	28.6	95.2	42.9	0.0	23.8	28.6	4.8
Net Change in % Exceedance:	-52.4	-42.9	-42.9	-57.1	-61.9	4.8	-95.2	-33.3	100.0	52.4	42.9	90.5
Net Change in 10% Exceedance	-28.6	-9.5	-9.5	-9.5	4.8	4.8	-9.5	-9.5	85.7	47.6	57.1	57.1

**NODOS Alternative A relative to the No Project/No Action Alternative  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	36.6	29.3	17.1	54.9	48.8	45.1	56.1	46.3	29.3	47.6	7.3	18.3
X ≥ 10.0	0.0	0.0	2.4	4.9	6.1	1.2	0.0	1.2	3.7	8.5	18.3	19.5
X > 0 (Total %)	9.8	11.0	13.4	29.3	31.7	57.3	9.8	9.8	72.0	30.5	57.3	92.7
X ≤ -10.0	32.9	1.2	26.8	1.2	0.0	0.0	1.2	12.2	0.0	0.0	22.0	1.2
X < 0 (Total %)	87.8	84.1	80.5	61.0	61.0	35.4	80.5	84.1	28.0	68.3	42.7	7.3
Net Change in % Exceedance:	-78.0	-73.2	-67.1	-31.7	-29.3	22.0	-70.7	-74.4	43.9	-37.8	14.6	85.4
Net Change in 10% Exceedance	-32.9	-1.2	-24.4	3.7	6.1	1.2	-1.2	-11.0	3.7	8.5	-3.7	18.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	9.8	9.8	8.5	11.0	8.5	9.8	3.7	7.3	3.7	0.0	3.7
X ≥ 10.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	9.5	33.3	61.9	28.6
X > 0 (Total %)	33.3	0.0	23.8	23.8	23.8	42.9	0.0	0.0	47.6	76.2	66.7	90.5
X ≤ -10.0	19.0	0.0	19.0	4.8	0.0	0.0	0.0	28.6	0.0	0.0	14.3	0.0
X < 0 (Total %)	66.7	95.2	61.9	76.2	61.9	42.9	100.0	100.0	52.4	23.8	33.3	9.5
Net Change in % Exceedance:	-33.3	-95.2	-38.1	-52.4	-38.1	0.0	-100.0	-100.0	-4.8	52.4	33.3	81.0
Net Change in 10% Exceedance	-19.0	0.0	-19.0	0.0	0.0	0.0	0.0	-28.6	9.5	33.3	47.6	28.6

**NODOS Alternative A relative to the No Project/No Action Alternative  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	19.5	53.7	25.6	52.4	67.1	54.9	74.4	57.3	15.9	43.9	17.1	22.0
X ≥ 10.0	0.0	0.0	2.4	2.4	0.0	7.3	0.0	1.2	12.2	4.9	19.5	11.0
X > 0 (Total %)	12.2	35.4	15.9	67.1	63.4	75.6	46.3	26.8	75.6	40.2	47.6	81.7
X ≤ -10.0	35.4	1.2	43.9	1.2	1.2	1.2	1.2	7.3	9.8	0.0	19.5	4.9
X < 0 (Total %)	82.9	61.0	76.8	31.7	32.9	23.2	45.1	62.2	24.4	59.8	52.4	17.1
Net Change in % Exceedance:	-70.7	-25.6	-61.0	35.4	30.5	52.4	1.2	-35.4	51.2	-19.5	-4.9	64.6
Net Change in 10% Exceedance	-35.4	-1.2	-41.5	1.2	-1.2	6.1	-1.2	-6.1	2.4	4.9	0.0	6.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	20.7	15.9	13.4	13.4	8.5	14.6	14.6	1.2	3.7	0.0	6.1
X ≥ 10.0	0.0	0.0	4.8	4.8	0.0	14.3	0.0	0.0	14.3	19.0	71.4	33.3
X > 0 (Total %)	14.3	57.1	14.3	28.6	33.3	85.7	9.5	0.0	33.3	81.0	71.4	81.0
X ≤ -10.0	9.5	0.0	0.0	0.0	4.8	0.0	4.8	28.6	38.1	0.0	28.6	9.5
X < 0 (Total %)	66.7	28.6	57.1	66.7	52.4	9.5	57.1	57.1	66.7	19.0	28.6	14.3
Net Change in % Exceedance:	-52.4	28.6	-42.9	-38.1	-19.0	76.2	-47.6	-57.1	-33.3	61.9	42.9	66.7
Net Change in 10% Exceedance	-9.5	0.0	4.8	4.8	-4.8	14.3	-4.8	-28.6	-23.8	19.0	42.9	23.8

## **Alternative B Compared to Existing Condition Feather River**

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**NODOS Alternative B relative to the Existing Condition  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	41.5	78.0	46.3	72.0	56.1	62.2	73.2	56.1	20.7	36.6	4.9	6.1
X ≥ 10.0	3.7	0.0	0.0	3.7	1.2	0.0	0.0	0.0	23.2	13.4	34.1	48.8
X > 0 (Total %)	11.0	0.0	13.4	22.0	18.3	18.3	25.6	25.6	75.6	52.4	84.1	95.1
X ≤ -10.0	41.5	15.9	25.6	13.4	11.0	11.0	9.8	24.4	0.0	3.7	2.4	0.0
X < 0 (Total %)	64.6	46.3	59.8	51.2	72.0	56.1	72.0	69.5	24.4	39.0	15.9	1.2
Net Change in % Exceedance:	-53.7	-46.3	-46.3	-29.3	-53.7	-37.8	-46.3	-43.9	51.2	13.4	68.3	93.9
Net Change in 10% Exceedance	-37.8	-15.9	-25.6	-9.8	-9.8	-11.0	-9.8	-24.4	23.2	9.8	31.7	48.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	18.3	17.1	22.0	22.0	22.0	20.7	19.5	0.0	0.0	0.0	1.2
X ≥ 10.0	14.3	0.0	0.0	4.8	0.0	0.0	0.0	0.0	90.5	52.4	81.0	85.7
X > 0 (Total %)	38.1	0.0	14.3	19.0	0.0	0.0	4.8	4.8	100.0	71.4	100.0	100.0
X ≤ -10.0	9.5	23.8	9.5	4.8	4.8	4.8	9.5	14.3	0.0	14.3	0.0	0.0
X < 0 (Total %)	33.3	52.4	52.4	47.6	81.0	47.6	85.7	76.2	0.0	28.6	0.0	0.0
Net Change in % Exceedance:	4.8	-52.4	-38.1	-28.6	-81.0	-47.6	-81.0	-71.4	100.0	42.9	100.0	100.0
Net Change in 10% Exceedance	4.8	-23.8	-9.5	0.0	-4.8	-4.8	-9.5	-14.3	90.5	38.1	81.0	85.7

**NODOS Alternative B relative to the Existing Condition  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	30.5	24.4	23.2	37.8	32.9	50.0	54.9	39.0	18.3	41.5	9.8	7.3
X ≥ 10.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0	0.0	13.4	3.7	25.6	41.5
X > 0 (Total %)	9.8	2.4	12.2	36.6	20.7	40.2	29.3	26.8	75.6	62.2	74.4	100.0
X ≤ -10.0	36.6	6.1	17.1	6.1	3.7	7.3	2.4	7.3	2.4	1.2	2.4	0.0
X < 0 (Total %)	90.2	90.2	81.7	59.8	78.0	54.9	67.1	72.0	24.4	37.8	25.6	0.0
Net Change in % Exceedance:	-80.5	-87.8	-69.5	-23.2	-57.3	-14.6	-37.8	-45.1	51.2	24.4	48.8	100.0
Net Change in 10% Exceedance	-36.6	-6.1	-17.1	-4.9	-2.4	-7.3	-2.4	-7.3	11.0	2.4	23.2	41.5
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	8.5	8.5	9.8	9.8	14.6	8.5	3.7	2.4	2.4	1.2	1.2
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	66.7	66.7
X > 0 (Total %)	38.1	0.0	23.8	90.5	4.8	23.8	0.0	0.0	33.3	66.7	71.4	100.0
X ≤ -10.0	9.5	9.5	9.5	0.0	0.0	0.0	4.8	19.0	9.5	4.8	9.5	0.0
X < 0 (Total %)	61.9	85.7	61.9	4.8	90.5	57.1	100.0	100.0	66.7	33.3	28.6	0.0
Net Change in % Exceedance:	-23.8	-85.7	-38.1	85.7	-85.7	-33.3	-100.0	-100.0	-33.3	33.3	42.9	100.0
Net Change in 10% Exceedance	-9.5	-9.5	-9.5	0.0	0.0	0.0	-4.8	-19.0	-9.5	9.5	57.1	66.7

**NODOS Alternative B relative to the Existing Condition  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	15.9	15.9	24.4	37.8	57.3	46.3	70.7	52.4	17.1	58.5	22.0	4.9
X ≥ 10.0	0.0	0.0	3.7	1.2	0.0	1.2	0.0	0.0	28.0	3.7	28.0	31.7
X > 0 (Total %)	13.4	25.6	18.3	34.1	51.2	52.4	50.0	35.4	62.2	32.9	84.1	96.3
X ≤ -10.0	32.9	1.2	22.0	1.2	3.7	3.7	1.2	8.5	9.8	0.0	3.7	0.0
X < 0 (Total %)	81.7	70.7	74.4	65.9	46.3	47.6	39.0	54.9	37.8	67.1	15.9	3.7
Net Change in % Exceedance:	-68.3	-45.1	-56.1	-31.7	4.9	4.9	11.0	-19.5	24.4	-34.1	68.3	92.7
Net Change in 10% Exceedance	-32.9	-1.2	-18.3	0.0	-3.7	-2.4	-1.2	-8.5	18.3	3.7	24.4	31.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	11.0	14.6	7.3	12.2	11.0	13.4	14.6	0.0	4.9	0.0	3.7
X ≥ 10.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	9.5	14.3	76.2	42.9
X > 0 (Total %)	47.6	57.1	38.1	28.6	38.1	47.6	9.5	4.8	14.3	33.3	81.0	85.7
X ≤ -10.0	0.0	0.0	0.0	0.0	9.5	0.0	4.8	33.3	38.1	0.0	14.3	0.0
X < 0 (Total %)	33.3	28.6	33.3	71.4	52.4	52.4	47.6	57.1	85.7	66.7	19.0	14.3
Net Change in % Exceedance:	14.3	28.6	4.8	-42.9	-14.3	-4.8	-38.1	-52.4	-71.4	-33.3	61.9	71.4
Net Change in 10% Exceedance	0.0	0.0	9.5	0.0	-9.5	0.0	-4.8	-33.3	-28.6	14.3	61.9	42.9

## **Alternative B Compared to No Action Alternative Condition Feather River**

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**NODOS Alternative B relative to the No Project/No Action Alternative  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	48.8	79.3	46.3	74.4	68.3	64.6	73.2	51.2	23.2	31.7	11.0	18.3
X ≥ 10.0	2.4	2.4	3.7	2.4	11.0	3.7	0.0	1.2	19.5	13.4	30.5	34.1
X > 0 (Total %)	11.0	6.1	15.9	15.9	30.5	31.7	7.3	17.1	47.6	18.3	65.9	92.7
X ≤ -10.0	20.7	8.5	29.3	9.8	4.9	2.4	8.5	26.8	17.1	3.7	18.3	0.0
X < 0 (Total %)	57.3	41.5	63.4	70.7	62.2	47.6	90.2	76.8	51.2	69.5	34.1	3.7
Net Change in % Exceedance:	-46.3	-35.4	-47.6	-54.9	-31.7	-15.9	-82.9	-59.8	-3.7	-51.2	31.7	89.0
Net Change in 10% Exceedance	-18.3	-6.1	-25.6	-7.3	6.1	1.2	-8.5	-25.6	2.4	9.8	12.2	34.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	17.1	18.3	17.1	20.7	23.2	23.2	20.7	19.5	0.0	2.4	0.0	1.2
X ≥ 10.0	9.5	0.0	9.5	4.8	0.0	0.0	0.0	0.0	76.2	52.4	76.2	71.4
X > 0 (Total %)	42.9	0.0	28.6	14.3	14.3	0.0	0.0	0.0	100.0	66.7	76.2	95.2
X ≤ -10.0	9.5	23.8	9.5	9.5	0.0	0.0	9.5	14.3	0.0	9.5	9.5	0.0
X < 0 (Total %)	28.6	47.6	38.1	71.4	66.7	57.1	100.0	85.7	0.0	33.3	23.8	4.8
Net Change in % Exceedance:	14.3	-47.6	-9.5	-57.1	-52.4	-57.1	-100.0	-85.7	100.0	33.3	52.4	90.5
Net Change in 10% Exceedance	0.0	-23.8	0.0	-4.8	0.0	0.0	-9.5	-14.3	76.2	42.9	66.7	71.4

**NODOS Alternative B relative to the No Project/No Action Alternative  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	42.7	24.4	13.4	47.6	51.2	47.6	52.4	39.0	23.2	43.9	6.1	20.7
X ≥ 10.0	0.0	0.0	2.4	1.2	4.9	0.0	0.0	1.2	1.2	3.7	20.7	35.4
X > 0 (Total %)	13.4	8.5	20.7	19.5	26.8	40.2	7.3	14.6	52.4	17.1	64.6	92.7
X ≤ -10.0	7.3	2.4	20.7	1.2	0.0	2.4	2.4	8.5	11.0	3.7	11.0	0.0
X < 0 (Total %)	84.1	81.7	75.6	69.5	64.6	46.3	85.4	80.5	46.3	81.7	35.4	7.3
Net Change in % Exceedance:	-70.7	-73.2	-54.9	-50.0	-37.8	-6.1	-78.0	-65.9	6.1	-64.6	29.3	85.4
Net Change in 10% Exceedance	-7.3	-2.4	-18.3	0.0	4.9	-2.4	-2.4	-7.3	-9.8	0.0	9.8	35.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	7.3	7.3	14.6	13.4	11.0	7.3	3.7	2.4	7.3	2.4	1.2
X ≥ 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	66.7	61.9
X > 0 (Total %)	52.4	4.8	47.6	33.3	9.5	28.6	0.0	0.0	4.8	47.6	66.7	95.2
X ≤ -10.0	4.8	4.8	9.5	0.0	0.0	0.0	4.8	14.3	42.9	0.0	9.5	0.0
X < 0 (Total %)	47.6	85.7	47.6	57.1	66.7	42.9	100.0	100.0	95.2	52.4	33.3	4.8
Net Change in % Exceedance:	4.8	-81.0	0.0	-23.8	-57.1	-14.3	-100.0	-100.0	-90.5	-4.8	33.3	90.5
Net Change in 10% Exceedance	-4.8	-4.8	-9.5	0.0	0.0	0.0	-4.8	-14.3	-42.9	14.3	57.1	61.9

**NODOS Alternative B relative to the No Project/No Action Alternative  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	37.8	40.2	23.2	50.0	67.1	57.3	74.4	53.7	26.8	30.5	15.9	23.2
X ≥ 10.0	0.0	0.0	3.7	1.2	1.2	4.9	0.0	1.2	9.8	3.7	19.5	22.0
X > 0 (Total %)	30.5	23.2	18.3	50.0	57.3	57.3	46.3	28.0	61.0	15.9	76.8	90.2
X ≤ -10.0	15.9	1.2	32.9	1.2	3.7	2.4	1.2	7.3	15.9	0.0	4.9	1.2
X < 0 (Total %)	62.2	73.2	73.2	50.0	39.0	42.7	43.9	63.4	39.0	84.1	23.2	8.5
Net Change in % Exceedance:	-31.7	-50.0	-54.9	0.0	18.3	14.6	2.4	-35.4	22.0	-68.3	53.7	81.7
Net Change in 10% Exceedance	-15.9	-1.2	-29.3	0.0	-2.4	2.4	-1.2	-6.1	-6.1	3.7	14.6	20.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	14.6	15.9	15.9	8.5	14.6	9.8	15.9	13.4	0.0	4.9	0.0	6.1
X ≥ 10.0	0.0	0.0	9.5	0.0	0.0	14.3	0.0	0.0	9.5	14.3	71.4	52.4
X > 0 (Total %)	52.4	23.8	23.8	52.4	33.3	81.0	9.5	4.8	14.3	38.1	71.4	95.2
X ≤ -10.0	0.0	0.0	0.0	0.0	14.3	0.0	4.8	28.6	61.9	0.0	19.0	0.0
X < 0 (Total %)	23.8	61.9	42.9	47.6	52.4	19.0	52.4	61.9	85.7	61.9	28.6	0.0
Net Change in % Exceedance:	28.6	-38.1	-19.0	4.8	-19.0	61.9	-42.9	-57.1	-71.4	-23.8	42.9	95.2
Net Change in 10% Exceedance	0.0	0.0	9.5	0.0	-14.3	14.3	-4.8	-28.6	-52.4	14.3	52.4	52.4

## **Alternative C Compared to Existing Condition Feather River**

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**NODOS Alternative C relative to the Existing Condition  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	37.8	74.4	43.9	72.0	59.8	58.5	73.2	59.8	15.9	34.1	2.4	8.5
X>=10.0	0.0	0.0	0.0	3.7	9.8	4.9	0.0	0.0	28.0	7.3	29.3	56.1
X>0 (Total %)	0.0	2.4	0.0	25.6	24.4	26.8	28.0	30.5	93.9	58.5	59.8	93.9
X<=-10.0	53.7	14.6	31.7	13.4	7.3	9.8	7.3	22.0	0.0	0.0	6.1	0.0
X<0 (Total %)	75.6	47.6	76.8	47.6	68.3	50.0	69.5	63.4	6.1	32.9	40.2	1.2
Net Change in % Exceedance:	-75.6	-45.1	-76.8	-22.0	-43.9	-23.2	-41.5	-32.9	87.8	25.6	19.5	92.7
Net Change in 10% Exceedance	-53.7	-14.6	-31.7	-9.8	2.4	-4.9	-7.3	-22.0	28.0	7.3	23.2	56.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	19.5	17.1	23.2	22.0	19.5	20.7	19.5	0.0	1.2	1.2	1.2
X>=10.0	0.0	0.0	0.0	4.8	0.0	9.5	0.0	0.0	100.0	28.6	85.7	76.2
X>0 (Total %)	0.0	9.5	0.0	19.0	0.0	19.0	9.5	28.6	100.0	90.5	85.7	95.2
X<=-10.0	28.6	14.3	14.3	0.0	0.0	4.8	9.5	14.3	0.0	0.0	0.0	0.0
X<0 (Total %)	61.9	42.9	57.1	47.6	85.7	38.1	81.0	47.6	0.0	9.5	14.3	0.0
Net Change in % Exceedance:	-61.9	-33.3	-57.1	-28.6	-85.7	-19.0	-71.4	-19.0	100.0	81.0	71.4	95.2
Net Change in 10% Exceedance	-28.6	-14.3	-14.3	4.8	0.0	4.8	-9.5	-14.3	100.0	28.6	85.7	76.2

**NODOS Alternative C relative to the Existing Condition  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	26.8	22.0	14.6	43.9	45.1	56.1	59.8	42.7	17.1	46.3	13.4	8.5
X>=10.0	0.0	1.2	0.0	1.2	6.1	0.0	0.0	0.0	35.4	6.1	24.4	47.6
X>0 (Total %)	2.4	2.4	6.1	34.1	25.6	45.1	32.9	25.6	95.1	64.6	65.9	97.6
X<=-10.0	50.0	4.9	24.4	3.7	2.4	7.3	2.4	6.1	0.0	2.4	3.7	0.0
X<0 (Total %)	97.6	93.9	86.6	57.3	73.2	40.2	61.0	73.2	4.9	35.4	34.1	2.4
Net Change in % Exceedance:	-95.1	-91.5	-80.5	-23.2	-47.6	4.9	-28.0	-47.6	90.2	29.3	31.7	95.1
Net Change in 10% Exceedance	-50.0	-3.7	-24.4	-2.4	3.7	-7.3	-2.4	-6.1	35.4	3.7	20.7	47.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	9.8	11.0	12.2	12.2	17.1	11.0	3.7	2.4	3.7	0.0	2.4
X>=10.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	23.8	23.8	61.9	52.4
X>0 (Total %)	9.5	4.8	9.5	85.7	4.8	33.3	4.8	0.0	100.0	71.4	66.7	90.5
X<=-10.0	28.6	4.8	14.3	0.0	0.0	0.0	4.8	19.0	0.0	9.5	14.3	0.0
X<0 (Total %)	90.5	95.2	66.7	9.5	90.5	28.6	95.2	100.0	0.0	28.6	33.3	9.5
Net Change in % Exceedance:	-81.0	-90.5	-57.1	76.2	-85.7	4.8	-90.5	-100.0	100.0	42.9	33.3	81.0
Net Change in 10% Exceedance	-28.6	-4.8	-14.3	4.8	0.0	0.0	-4.8	-19.0	23.8	14.3	47.6	52.4

**NODOS Alternative C relative to the Existing Condition  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	12.2	8.5	23.2	47.6	56.1	47.6	72.0	53.7	14.6	53.7	13.4	3.7
X>=10.0	0.0	2.4	2.4	1.2	3.7	1.2	0.0	0.0	32.9	6.1	25.6	37.8
X>0 (Total %)	12.2	23.2	14.6	32.9	61.0	47.6	48.8	31.7	78.0	58.5	57.3	95.1
X<=-10.0	39.0	2.4	41.5	3.7	2.4	4.9	1.2	7.3	1.2	1.2	6.1	2.4
X<0 (Total %)	85.4	75.6	80.5	65.9	36.6	51.2	40.2	56.1	22.0	41.5	42.7	4.9
Net Change in % Exceedance:	-73.2	-52.4	-65.9	-32.9	24.4	-3.7	8.5	-24.4	56.1	17.1	14.6	90.2
Net Change in 10% Exceedance	-39.0	0.0	-39.0	-2.4	1.2	-3.7	-1.2	-7.3	31.7	4.9	19.5	35.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	4.9	13.4	11.0	12.2	11.0	13.4	17.1	2.4	3.7	0.0	2.4
X>=10.0	0.0	4.8	4.8	0.0	14.3	4.8	0.0	0.0	14.3	23.8	66.7	38.1
X>0 (Total %)	42.9	52.4	33.3	23.8	57.1	38.1	9.5	9.5	57.1	66.7	71.4	81.0
X<=-10.0	4.8	0.0	4.8	4.8	4.8	4.8	4.8	28.6	4.8	4.8	23.8	9.5
X<0 (Total %)	47.6	42.9	47.6	71.4	33.3	57.1	47.6	42.9	42.9	33.3	28.6	19.0
Net Change in % Exceedance:	-4.8	9.5	-14.3	-47.6	23.8	-19.0	-38.1	-33.3	14.3	33.3	42.9	61.9
Net Change in 10% Exceedance	-4.8	4.8	0.0	-4.8	9.5	0.0	-4.8	-28.6	9.5	19.0	42.9	28.6

## **Alternative C Compared to No Action Alternative Condition Feather River**

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**NODOS Alternative C relative to the No Project/No Action Alternative  
Feather River below Thermalito, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	42.7	79.3	41.5	75.6	67.1	51.2	72.0	54.9	14.6	31.7	3.7	22.0
X ≥ 10.0	0.0	0.0	2.4	2.4	19.5	6.1	0.0	0.0	23.2	9.8	23.2	40.2
X > 0 (Total %)	1.2	8.5	7.3	12.2	30.5	42.7	7.3	20.7	61.0	28.0	53.7	86.6
X ≤ -10.0	47.6	6.1	36.6	8.5	3.7	4.9	6.1	25.6	3.7	0.0	28.0	0.0
X < 0 (Total %)	68.3	37.8	78.0	65.9	65.9	39.0	90.2	67.1	39.0	58.5	46.3	8.5
Net Change in % Exceedance:	-67.1	-29.3	-70.7	-53.7	-35.4	3.7	-82.9	-46.3	22.0	-30.5	7.3	78.0
Net Change in 10% Exceedance	-47.6	-6.1	-34.1	-6.1	15.9	1.2	-6.1	-25.6	19.5	9.8	-4.9	40.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	15.9	19.5	17.1	23.2	23.2	19.5	20.7	19.5	0.0	1.2	0.0	1.2
X ≥ 10.0	0.0	0.0	4.8	0.0	4.8	9.5	0.0	0.0	90.5	38.1	61.9	66.7
X > 0 (Total %)	4.8	9.5	19.0	4.8	9.5	19.0	0.0	19.0	100.0	76.2	71.4	95.2
X ≤ -10.0	33.3	14.3	14.3	4.8	0.0	4.8	9.5	14.3	0.0	0.0	19.0	0.0
X < 0 (Total %)	57.1	33.3	52.4	71.4	76.2	47.6	100.0	47.6	0.0	23.8	28.6	0.0
Net Change in % Exceedance:	-52.4	-23.8	-33.3	-66.7	-66.7	-28.6	-100.0	-28.6	100.0	52.4	42.9	95.2
Net Change in 10% Exceedance	-33.3	-14.3	-9.5	-4.8	4.8	4.8	-9.5	-14.3	90.5	38.1	42.9	66.7

**NODOS Alternative C relative to the No Project/No Action Alternative  
Feather River at Shanghai Bend, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	39.0	22.0	14.6	62.2	42.7	50.0	57.3	47.6	22.0	50.0	15.9	20.7
X ≥ 10.0	0.0	1.2	2.4	1.2	11.0	0.0	0.0	0.0	2.4	6.1	17.1	32.9
X > 0 (Total %)	7.3	7.3	13.4	28.0	39.0	54.9	12.2	12.2	68.3	31.7	57.3	86.6
X ≤ -10.0	39.0	2.4	32.9	0.0	0.0	3.7	2.4	13.4	0.0	0.0	19.5	0.0
X < 0 (Total %)	90.2	89.0	80.5	59.8	53.7	32.9	76.8	81.7	31.7	68.3	42.7	13.4
Net Change in % Exceedance:	-82.9	-81.7	-67.1	-31.7	-14.6	22.0	-64.6	-69.5	36.6	-36.6	14.6	73.2
Net Change in 10% Exceedance	-39.0	-1.2	-30.5	1.2	11.0	-3.7	-2.4	-13.4	2.4	6.1	-2.4	32.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	12.2	8.5	9.8	13.4	11.0	17.1	9.8	3.7	7.3	3.7	0.0	2.4
X ≥ 10.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	4.8	23.8	57.1	38.1
X > 0 (Total %)	23.8	0.0	28.6	23.8	19.0	38.1	0.0	0.0	42.9	76.2	61.9	90.5
X ≤ -10.0	23.8	4.8	14.3	0.0	0.0	0.0	4.8	33.3	0.0	0.0	28.6	0.0
X < 0 (Total %)	76.2	100.0	57.1	76.2	57.1	23.8	100.0	100.0	57.1	23.8	38.1	9.5
Net Change in % Exceedance:	-52.4	-100.0	-28.6	-52.4	-38.1	14.3	-100.0	-100.0	-14.3	52.4	23.8	81.0
Net Change in 10% Exceedance	-23.8	-4.8	-14.3	4.8	0.0	0.0	-4.8	-33.3	4.8	23.8	28.6	38.1

**NODOS Alternative C relative to the No Project/No Action Alternative  
Feather River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	20.7	35.4	20.7	59.8	63.4	53.7	74.4	57.3	15.9	34.1	24.4	25.6
X ≥ 10.0	0.0	2.4	1.2	2.4	2.4	6.1	0.0	1.2	12.2	3.7	17.1	31.7
X > 0 (Total %)	19.5	24.4	17.1	53.7	70.7	61.0	40.2	23.2	74.4	32.9	52.4	80.5
X ≤ -10.0	30.5	1.2	51.2	1.2	0.0	2.4	1.2	6.1	7.3	0.0	12.2	2.4
X < 0 (Total %)	75.6	74.4	78.0	45.1	28.0	37.8	50.0	65.9	25.6	67.1	47.6	18.3
Net Change in % Exceedance:	-56.1	-50.0	-61.0	8.5	42.7	23.2	-9.8	-42.7	48.8	-34.1	4.9	62.2
Net Change in 10% Exceedance	-30.5	1.2	-50.0	1.2	2.4	3.7	-1.2	-4.9	4.9	3.7	4.9	29.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	8.5	8.5	14.6	9.8	13.4	9.8	14.6	14.6	2.4	3.7	0.0	7.3
X ≥ 10.0	0.0	4.8	0.0	4.8	0.0	19.0	0.0	0.0	9.5	14.3	66.7	38.1
X > 0 (Total %)	38.1	19.0	14.3	52.4	66.7	76.2	9.5	0.0	38.1	71.4	66.7	81.0
X ≤ -10.0	4.8	0.0	9.5	0.0	0.0	0.0	4.8	23.8	28.6	0.0	33.3	9.5
X < 0 (Total %)	47.6	76.2	66.7	42.9	28.6	19.0	52.4	57.1	61.9	28.6	33.3	14.3
Net Change in % Exceedance:	-9.5	-57.1	-52.4	9.5	38.1	57.1	-42.9	-57.1	-23.8	42.9	33.3	66.7
Net Change in 10% Exceedance	-4.8	4.8	-9.5	4.8	0.0	19.0	-4.8	-23.8	-19.0	14.3	33.3	28.6

# **No Action Alternative Compared to Existing Condition American River**

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**The No Project/No Action Alternative relative to the Existing Condition  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	53.7	25.6	59.8	57.3	50.0	26.8	26.8	14.6	9.8	28.0	4.9	14.6
X ≥ 10.0	0.0	0.0	0.0	0.0	1.2	0.0	1.2	1.2	0.0	0.0	0.0	2.4
X > 0 (Total %)	1.2	6.1	4.9	8.5	3.7	7.3	31.7	3.7	2.4	18.3	11.0	6.1
X ≤ -10.0	22.0	9.8	11.0	4.9	6.1	6.1	0.0	7.3	15.9	17.1	39.0	39.0
X < 0 (Total %)	48.8	75.6	54.9	58.5	75.6	82.9	58.5	86.6	90.2	57.3	85.4	84.1
Net Change in % Exceedance:	-47.6	-69.5	-50.0	-50.0	-72.0	-75.6	-26.8	-82.9	-87.8	-39.0	-74.4	-78.0
Net Change in 10% Exceedance	-22.0	-9.8	-11.0	-4.9	-4.9	-6.1	1.2	-6.1	-15.9	-17.1	-39.0	-36.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	6.1	11.0	13.4	17.1	4.9	13.4	6.1	6.1	0.0	4.9	4.9
X ≥ 10.0	0.0	0.0	0.0	0.0	4.8	0.0	4.8	4.8	0.0	0.0	0.0	9.5
X > 0 (Total %)	4.8	0.0	4.8	28.6	14.3	9.5	52.4	14.3	0.0	0.0	0.0	23.8
X ≤ -10.0	33.3	23.8	23.8	0.0	0.0	4.8	0.0	9.5	47.6	61.9	71.4	9.5
X < 0 (Total %)	71.4	76.2	76.2	28.6	28.6	76.2	19.0	71.4	81.0	100.0	85.7	61.9
Net Change in % Exceedance:	-66.7	-76.2	-71.4	0.0	-14.3	-66.7	33.3	-57.1	-81.0	-100.0	-85.7	-38.1
Net Change in 10% Exceedance	-33.3	-23.8	-23.8	0.0	4.8	-4.8	4.8	-4.8	-47.6	-61.9	-71.4	0.0

The No Project/No Action Alternative relative to the Existing Condition  
American River at Watt Avenue, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	54.9	26.8	61.0	57.3	43.9	19.5	22.0	12.2	13.4	29.3	3.7	14.6
X ≥ 10.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0	1.2	0.0	0.0	0.0	2.4
X > 0 (Total %)	0.0	14.6	36.6	17.1	14.6	8.5	30.5	6.1	3.7	42.7	12.2	7.3
X ≤ -10.0	23.2	12.2	11.0	6.1	6.1	7.3	1.2	8.5	17.1	14.6	39.0	39.0
X < 0 (Total %)	100.0	85.4	63.4	79.3	82.9	90.2	68.3	93.9	96.3	57.3	87.8	92.7
Net Change in % Exceedance:	-100.0	-70.7	-26.8	-62.2	-68.3	-81.7	-37.8	-87.8	-92.7	-14.6	-75.6	-85.4
Net Change in 10% Exceedance	-23.2	-12.2	-11.0	-4.9	-4.9	-7.3	-1.2	-7.3	-17.1	-14.6	-39.0	-36.6
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	7.3	6.1	11.0	14.6	15.9	3.7	4.9	7.3	8.5	0.0	2.4	4.9
X ≥ 10.0	0.0	0.0	0.0	4.8	4.8	0.0	0.0	4.8	0.0	0.0	0.0	9.5
X > 0 (Total %)	0.0	14.3	14.3	52.4	47.6	9.5	47.6	23.8	0.0	0.0	4.8	23.8
X ≤ -10.0	33.3	28.6	23.8	0.0	0.0	9.5	0.0	9.5	47.6	57.1	71.4	9.5
X < 0 (Total %)	100.0	85.7	85.7	38.1	42.9	85.7	47.6	76.2	100.0	100.0	95.2	76.2
Net Change in % Exceedance:	-100.0	-71.4	-71.4	14.3	4.8	-76.2	0.0	-52.4	-100.0	-100.0	-90.5	-52.4
Net Change in 10% Exceedance	-33.3	-28.6	-23.8	4.8	4.8	-9.5	0.0	-4.8	-47.6	-57.1	-71.4	0.0

The No Project/No Action Alternative relative to the Existing Condition  
American River at Mouth, Monthly Flow

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	0.0	6.1	35.4	20.7	19.5	9.8	12.2	2.4	1.2	30.5	6.1	4.9
X ≥ 10.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	0.0	7.3	4.9	4.9	7.3	3.7	15.9	1.2	1.2	13.4	8.5	3.7
X ≤ -10.0	29.3	18.3	11.0	7.3	7.3	12.2	2.4	22.0	37.8	39.0	46.3	45.1
X < 0 (Total %)	100.0	92.7	95.1	95.1	92.7	95.1	82.9	97.6	97.6	85.4	90.2	93.9
Net Change in % Exceedance:	-100.0	-85.4	-90.2	-90.2	-85.4	-91.5	-67.1	-96.3	-96.3	-72.0	-81.7	-90.2
Net Change in 10% Exceedance	-29.3	-18.3	-11.0	-6.1	-7.3	-12.2	-2.4	-22.0	-37.8	-39.0	-46.3	-45.1
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	0.0	1.2	0.0	2.4	2.4	2.4	2.4	1.2	1.2	1.2	3.7
X ≥ 10.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X > 0 (Total %)	0.0	0.0	0.0	14.3	28.6	0.0	4.8	4.8	0.0	0.0	0.0	14.3
X ≤ -10.0	47.6	33.3	14.3	0.0	4.8	28.6	4.8	52.4	61.9	95.2	85.7	28.6
X < 0 (Total %)	100.0	100.0	100.0	85.7	71.4	95.2	90.5	90.5	95.2	95.2	95.2	76.2
Net Change in % Exceedance:	-100.0	-100.0	-100.0	-71.4	-42.9	-95.2	-85.7	-85.7	-95.2	-95.2	-95.2	-61.9
Net Change in 10% Exceedance	-47.6	-33.3	-14.3	4.8	-4.8	-28.6	-4.8	-52.4	-61.9	-95.2	-85.7	-28.6

## **Alternative A Compared to Existing Condition American River**

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**NODOS Alternative A relative to the Existing Condition  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	58.5	32.9	58.5	65.9	50.0	34.1	19.5	12.2	12.2	12.2	13.4	6.1
X>=10.0	1.2	0.0	1.2	0.0	2.4	2.4	6.1	9.8	2.4	4.9	2.4	14.6
X>0 (Total %)	6.1	11.0	28.0	18.3	17.1	20.7	34.1	15.9	8.5	4.9	40.2	23.2
X<=-10.0	4.9	17.1	8.5	6.1	6.1	3.7	0.0	6.1	29.3	78.0	19.5	37.8
X<0 (Total %)	40.2	68.3	29.3	47.6	61.0	68.3	58.5	75.6	80.5	82.9	57.3	74.4
Net Change in % Exceedance:	-34.1	-57.3	-1.2	-29.3	-43.9	-47.6	-24.4	-59.8	-72.0	-78.0	-17.1	-51.2
Net Change in 10% Exceedance	-3.7	-17.1	-7.3	-6.1	-3.7	-1.2	6.1	3.7	-26.8	-73.2	-17.1	-23.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	7.3	12.2	14.6	17.1	6.1	6.1	3.7	8.5	0.0	3.7	1.2
X>=10.0	4.8	0.0	0.0	0.0	9.5	0.0	23.8	38.1	9.5	19.0	9.5	57.1
X>0 (Total %)	19.0	9.5	19.0	23.8	23.8	9.5	42.9	61.9	33.3	19.0	23.8	85.7
X<=-10.0	19.0	38.1	28.6	23.8	4.8	9.5	0.0	0.0	28.6	76.2	33.3	0.0
X<0 (Total %)	42.9	66.7	61.9	23.8	14.3	71.4	38.1	28.6	38.1	81.0	66.7	9.5
Net Change in % Exceedance:	-23.8	-57.1	-42.9	0.0	9.5	-61.9	4.8	33.3	-4.8	-61.9	-42.9	76.2
Net Change in 10% Exceedance	-14.3	-38.1	-28.6	-23.8	4.8	-9.5	23.8	38.1	-19.0	-57.1	-23.8	57.1

**NODOS Alternative A relative to the Existing Condition  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	62.2	31.7	58.5	64.6	46.3	26.8	11.0	6.1	15.9	12.2	9.8	4.9
X>=10.0	1.2	0.0	2.4	0.0	2.4	1.2	4.9	8.5	2.4	4.9	2.4	15.9
X>0 (Total %)	14.6	23.2	74.4	34.1	29.3	26.8	36.6	17.1	9.8	13.4	41.5	25.6
X<=-10.0	3.7	17.1	8.5	6.1	7.3	8.5	0.0	7.3	30.5	78.0	19.5	39.0
X<0 (Total %)	85.4	76.8	25.6	61.0	67.1	70.7	63.4	82.9	90.2	86.6	58.5	74.4
Net Change in % Exceedance:	-70.7	-53.7	48.8	-26.8	-37.8	-43.9	-26.8	-65.9	-80.5	-73.2	-17.1	-48.8
Net Change in 10% Exceedance	-2.4	-17.1	-6.1	-6.1	-4.9	-7.3	4.9	1.2	-28.0	-73.2	-17.1	-23.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	7.3	11.0	14.6	17.1	6.1	0.0	1.2	9.8	0.0	3.7	1.2
X>=10.0	4.8	0.0	0.0	0.0	9.5	0.0	19.0	33.3	9.5	19.0	9.5	61.9
X>0 (Total %)	23.8	14.3	52.4	38.1	57.1	9.5	47.6	66.7	38.1	19.0	23.8	90.5
X<=-10.0	14.3	38.1	28.6	23.8	4.8	28.6	0.0	0.0	28.6	76.2	33.3	0.0
X<0 (Total %)	76.2	85.7	47.6	42.9	28.6	81.0	52.4	33.3	61.9	81.0	76.2	9.5
Net Change in % Exceedance:	-52.4	-71.4	4.8	-4.8	28.6	-71.4	-4.8	33.3	-23.8	-61.9	-52.4	81.0
Net Change in 10% Exceedance	-9.5	-38.1	-28.6	-23.8	4.8	-28.6	19.0	33.3	-19.0	-57.1	-23.8	61.9

**NODOS Alternative A relative to the Existing Condition  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	1.2	11.0	51.2	41.5	26.8	12.2	8.5	1.2	0.0	3.7	13.4	3.7
X>=10.0	1.2	0.0	1.2	0.0	0.0	3.7	1.2	6.1	1.2	4.9	2.4	13.4
X>0 (Total %)	3.7	7.3	28.0	13.4	11.0	13.4	28.0	14.6	3.7	4.9	29.3	19.5
X<=-10.0	9.8	24.4	8.5	4.9	7.3	11.0	1.2	11.0	46.3	79.3	24.4	42.7
X<0 (Total %)	96.3	92.7	72.0	86.6	89.0	85.4	72.0	85.4	96.3	93.9	70.7	78.0
Net Change in % Exceedance:	-92.7	-85.4	-43.9	-73.2	-78.0	-72.0	-43.9	-70.7	-92.7	-89.0	-41.5	-58.5
Net Change in 10% Exceedance	-8.5	-24.4	-7.3	-4.9	-7.3	-7.3	0.0	-4.9	-45.1	-74.4	-22.0	-29.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	1.2	0.0	4.9	2.4	3.7	2.4	0.0	1.2	0.0	1.2	0.0	2.4
X>=10.0	4.8	0.0	0.0	0.0	0.0	0.0	4.8	23.8	4.8	19.0	9.5	52.4
X>0 (Total %)	14.3	4.8	14.3	19.0	19.0	0.0	38.1	57.1	14.3	19.0	19.0	71.4
X<=-10.0	28.6	52.4	28.6	19.0	9.5	38.1	4.8	0.0	33.3	76.2	47.6	0.0
X<0 (Total %)	85.7	95.2	85.7	81.0	81.0	95.2	61.9	42.9	85.7	76.2	81.0	19.0
Net Change in % Exceedance:	-71.4	-90.5	-71.4	-61.9	-61.9	-95.2	-23.8	14.3	-71.4	-57.1	-61.9	52.4
Net Change in 10% Exceedance	-23.8	-52.4	-28.6	-19.0	-9.5	-38.1	0.0	23.8	-28.6	-57.1	-38.1	52.4

# **Alternative A Compared to No Action Alternative Condition American River**

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**NODOS Alternative A relative to the No Project/No Action Alternative  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	62.2	29.3	52.4	61.0	57.3	64.6	53.7	69.5	32.9	15.9	26.8	13.4
X ≥ 10.0	13.4	6.1	15.9	6.1	4.9	7.3	6.1	14.6	11.0	4.9	34.1	28.0
X > 0 (Total %)	34.1	40.2	41.5	34.1	24.4	32.9	36.6	26.8	24.4	8.5	81.7	45.1
X ≤ -10.0	0.0	4.9	2.4	4.9	3.7	0.0	0.0	0.0	9.8	48.8	0.0	1.2
X < 0 (Total %)	8.5	36.6	11.0	20.7	39.0	25.6	32.9	28.0	46.3	80.5	7.3	51.2
Net Change in % Exceedance:	25.6	3.7	30.5	13.4	-14.6	7.3	3.7	-1.2	-22.0	-72.0	74.4	-6.1
Net Change in 10% Exceedance	13.4	1.2	13.4	1.2	1.2	7.3	6.1	14.6	1.2	-43.9	34.1	26.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	9.8	9.8	11.0	13.4	14.6	13.4	6.1	2.4	4.9	2.4	2.4	2.4
X ≥ 10.0	19.0	9.5	19.0	4.8	0.0	0.0	9.5	57.1	42.9	19.0	76.2	61.9
X > 0 (Total %)	42.9	33.3	33.3	19.0	23.8	14.3	33.3	90.5	76.2	33.3	90.5	76.2
X ≤ -10.0	0.0	14.3	9.5	19.0	4.8	0.0	0.0	0.0	0.0	4.8	0.0	0.0
X < 0 (Total %)	28.6	33.3	33.3	33.3	19.0	52.4	52.4	4.8	4.8	66.7	0.0	23.8
Net Change in % Exceedance:	14.3	0.0	0.0	-14.3	4.8	-38.1	-19.0	85.7	71.4	-33.3	90.5	52.4
Net Change in 10% Exceedance	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	42.9	14.3	76.2	61.9

**NODOS Alternative A relative to the No Project/No Action Alternative  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	63.4	29.3	52.4	58.5	52.4	59.8	50.0	68.3	35.4	15.9	24.4	15.9
X ≥ 10.0	13.4	6.1	17.1	6.1	6.1	6.1	6.1	14.6	12.2	4.9	36.6	29.3
X > 0 (Total %)	73.2	50.0	75.6	54.9	43.9	56.1	36.6	34.1	34.1	8.5	86.6	45.1
X ≤ -10.0	0.0	6.1	2.4	4.9	3.7	0.0	0.0	0.0	8.5	48.8	0.0	1.2
X < 0 (Total %)	26.8	47.6	22.0	36.6	46.3	31.7	51.2	37.8	50.0	91.5	7.3	52.4
Net Change in % Exceedance:	46.3	2.4	53.7	18.3	-2.4	24.4	-14.6	-3.7	-15.9	-82.9	79.3	-7.3
Net Change in 10% Exceedance	13.4	0.0	14.6	1.2	2.4	6.1	6.1	14.6	3.7	-43.9	36.6	28.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	9.8	11.0	12.2	12.2	12.2	3.7	2.4	7.3	2.4	2.4	4.9
X ≥ 10.0	19.0	9.5	19.0	4.8	0.0	0.0	9.5	57.1	47.6	19.0	76.2	61.9
X > 0 (Total %)	61.9	47.6	71.4	28.6	52.4	28.6	42.9	95.2	95.2	33.3	100.0	66.7
X ≤ -10.0	0.0	14.3	9.5	19.0	4.8	0.0	0.0	0.0	0.0	9.5	0.0	0.0
X < 0 (Total %)	38.1	52.4	28.6	52.4	28.6	52.4	57.1	4.8	4.8	66.7	0.0	23.8
Net Change in % Exceedance:	23.8	-4.8	42.9	-23.8	23.8	-23.8	-14.3	90.5	90.5	-33.3	100.0	42.9
Net Change in 10% Exceedance	19.0	-4.8	9.5	-14.3	-4.8	0.0	9.5	57.1	47.6	9.5	76.2	61.9

**NODOS Alternative A relative to the No Project/No Action Alternative  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	63.4	13.4	46.3	58.5	48.8	53.7	47.6	64.6	37.8	17.1	23.2	13.4
X ≥ 10.0	15.9	2.4	17.1	8.5	7.3	8.5	6.1	17.1	12.2	4.9	37.8	29.3
X > 0 (Total %)	68.3	56.1	73.2	62.2	52.4	52.4	41.5	40.2	36.6	8.5	89.0	45.1
X ≤ -10.0	0.0	4.9	2.4	4.9	3.7	0.0	0.0	0.0	11.0	52.4	0.0	1.2
X < 0 (Total %)	30.5	41.5	24.4	34.1	41.5	36.6	46.3	32.9	48.8	90.2	6.1	52.4
Net Change in % Exceedance:	37.8	14.6	48.8	28.0	11.0	15.9	-4.9	7.3	-12.2	-81.7	82.9	-7.3
Net Change in 10% Exceedance	15.9	-2.4	14.6	3.7	3.7	8.5	6.1	17.1	1.2	-47.6	37.8	28.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	6.1	4.9	9.8	9.8	6.1	3.7	0.0	7.3	3.7	2.4	4.9
X ≥ 10.0	23.8	0.0	19.0	4.8	0.0	0.0	14.3	66.7	47.6	19.0	76.2	61.9
X > 0 (Total %)	81.0	47.6	61.9	47.6	71.4	9.5	47.6	100.0	95.2	33.3	100.0	76.2
X ≤ -10.0	0.0	14.3	9.5	19.0	4.8	0.0	0.0	0.0	0.0	4.8	0.0	0.0
X < 0 (Total %)	19.0	52.4	38.1	52.4	23.8	76.2	52.4	0.0	4.8	61.9	0.0	14.3
Net Change in % Exceedance:	61.9	-4.8	23.8	-4.8	47.6	-66.7	-4.8	100.0	90.5	-28.6	100.0	61.9
Net Change in 10% Exceedance	23.8	-14.3	9.5	-14.3	-4.8	0.0	14.3	66.7	47.6	14.3	76.2	61.9

## **Alternative B Compared to Existing Condition American River**

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**NODOS Alternative B relative to the Existing Condition  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	65.9	30.5	61.0	64.6	47.6	31.7	22.0	12.2	9.8	17.1	12.2	8.5
X>=10.0	2.4	0.0	1.2	2.4	2.4	0.0	7.3	8.5	1.2	1.2	1.2	3.7
X>0 (Total %)	26.8	19.5	22.0	19.5	13.4	14.6	39.0	15.9	7.3	1.2	25.6	11.0
X<=-10.0	1.2	4.9	2.4	0.0	7.3	2.4	0.0	3.7	34.1	65.9	25.6	61.0
X<0 (Total %)	20.7	61.0	35.4	46.3	68.3	73.2	51.2	76.8	82.9	81.7	70.7	85.4
Net Change in % Exceedance:	6.1	-41.5	-13.4	-26.8	-54.9	-58.5	-12.2	-61.0	-75.6	-80.5	-45.1	-74.4
Net Change in 10% Exceedance	1.2	-4.9	-1.2	2.4	-4.9	-2.4	7.3	4.9	-32.9	-64.6	-24.4	-57.3
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	12.2	6.1	12.2	12.2	17.1	7.3	7.3	3.7	7.3	0.0	4.9	6.1
X>=10.0	9.5	0.0	0.0	4.8	4.8	0.0	28.6	33.3	4.8	4.8	4.8	14.3
X>0 (Total %)	52.4	33.3	19.0	33.3	38.1	19.0	42.9	61.9	23.8	4.8	28.6	42.9
X<=-10.0	0.0	9.5	9.5	0.0	0.0	4.8	0.0	0.0	28.6	85.7	47.6	14.3
X<0 (Total %)	14.3	42.9	57.1	23.8	9.5	61.9	33.3	28.6	47.6	95.2	57.1	47.6
Net Change in % Exceedance:	38.1	-9.5	-38.1	9.5	28.6	-42.9	9.5	33.3	-23.8	-90.5	-28.6	-4.8
Net Change in 10% Exceedance	9.5	-9.5	-9.5	4.8	4.8	-4.8	28.6	33.3	-23.8	-81.0	-42.9	0.0

**NODOS Alternative B relative to the Existing Condition  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	65.9	30.5	62.2	63.4	42.7	29.3	15.9	7.3	13.4	17.1	6.1	8.5
X>=10.0	2.4	1.2	2.4	3.7	2.4	0.0	7.3	7.3	1.2	1.2	1.2	3.7
X>0 (Total %)	76.8	29.3	54.9	30.5	25.6	15.9	41.5	17.1	8.5	4.9	28.0	11.0
X<=-10.0	1.2	6.1	2.4	1.2	8.5	2.4	0.0	4.9	36.6	69.5	23.2	63.4
X<0 (Total %)	23.2	70.7	45.1	67.1	74.4	81.7	58.5	82.9	91.5	93.9	70.7	89.0
Net Change in % Exceedance:	53.7	-41.5	9.8	-36.6	-48.8	-65.9	-17.1	-65.9	-82.9	-89.0	-42.7	-78.0
Net Change in 10% Exceedance	1.2	-4.9	0.0	2.4	-6.1	-2.4	7.3	2.4	-35.4	-68.3	-22.0	-59.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	6.1	12.2	12.2	15.9	8.5	2.4	2.4	8.5	0.0	3.7	6.1
X>=10.0	9.5	4.8	4.8	9.5	4.8	0.0	28.6	28.6	4.8	4.8	4.8	14.3
X>0 (Total %)	85.7	38.1	47.6	52.4	71.4	14.3	47.6	66.7	28.6	9.5	38.1	42.9
X<=-10.0	0.0	9.5	9.5	4.8	0.0	4.8	0.0	0.0	28.6	85.7	38.1	19.0
X<0 (Total %)	14.3	61.9	52.4	42.9	28.6	76.2	52.4	33.3	71.4	90.5	57.1	57.1
Net Change in % Exceedance:	71.4	-23.8	-4.8	9.5	42.9	-61.9	-4.8	33.3	-42.9	-81.0	-19.0	-14.3
Net Change in 10% Exceedance	9.5	-4.8	-4.8	4.8	4.8	-4.8	28.6	28.6	-23.8	-81.0	-33.3	-4.8

**NODOS Alternative B relative to the Existing Condition  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	29.3	22.0	47.6	28.0	25.6	14.6	12.2	2.4	2.4	0.0	11.0	2.4
X ≥ 10.0	1.2	1.2	0.0	2.4	0.0	0.0	3.7	7.3	0.0	2.4	1.2	2.4
X > 0 (Total %)	19.5	20.7	22.0	13.4	9.8	7.3	31.7	15.9	3.7	2.4	11.0	7.3
X ≤ -10.0	1.2	9.8	2.4	3.7	7.3	6.1	2.4	7.3	48.8	72.0	31.7	68.3
X < 0 (Total %)	80.5	79.3	78.0	86.6	90.2	91.5	68.3	84.1	96.3	97.6	89.0	91.5
Net Change in % Exceedance:	-61.0	-58.5	-56.1	-73.2	-80.5	-84.1	-36.6	-68.3	-92.7	-95.1	-78.0	-84.1
Net Change in 10% Exceedance	0.0	-8.5	-2.4	-1.2	-7.3	-6.1	1.2	0.0	-48.8	-69.5	-30.5	-65.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	1.2	3.7	3.7	2.4	3.7	2.4	0.0	2.4	2.4	0.0	1.2	2.4
X ≥ 10.0	4.8	4.8	0.0	4.8	0.0	0.0	14.3	28.6	0.0	9.5	4.8	9.5
X > 0 (Total %)	28.6	28.6	23.8	28.6	28.6	0.0	38.1	61.9	14.3	9.5	14.3	28.6
X ≤ -10.0	0.0	19.0	9.5	9.5	0.0	19.0	9.5	4.8	38.1	85.7	57.1	28.6
X < 0 (Total %)	71.4	71.4	76.2	71.4	71.4	95.2	61.9	38.1	85.7	90.5	85.7	66.7
Net Change in % Exceedance:	-42.9	-42.9	-52.4	-42.9	-42.9	-95.2	-23.8	23.8	-71.4	-81.0	-71.4	-38.1
Net Change in 10% Exceedance	4.8	-14.3	-9.5	-4.8	0.0	-19.0	4.8	23.8	-38.1	-76.2	-52.4	-19.0

# **Alternative B Compared to No Action Alternative Condition American River**

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**NODOS Alternative B relative to the No Project/No Action Alternative  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	50.0	37.8	59.8	61.0	62.2	61.0	54.9	63.4	41.5	20.7	25.6	14.6
X>=10.0	26.8	13.4	18.3	7.3	3.7	2.4	6.1	14.6	6.1	3.7	18.3	8.5
X>0 (Total %)	50.0	56.1	36.6	35.4	28.0	43.9	45.1	40.2	18.3	6.1	63.4	28.0
X<=-10.0	0.0	0.0	1.2	0.0	2.4	0.0	0.0	0.0	8.5	32.9	0.0	11.0
X<0 (Total %)	1.2	20.7	13.4	15.9	34.1	17.1	19.5	19.5	52.4	78.0	31.7	65.9
Net Change in % Exceedance:	48.8	35.4	23.2	19.5	-6.1	26.8	25.6	20.7	-34.1	-72.0	31.7	-37.8
Net Change in 10% Exceedance	26.8	13.4	17.1	7.3	1.2	2.4	6.1	14.6	-2.4	-29.3	18.3	-2.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	9.8	12.2	12.2	14.6	12.2	7.3	1.2	7.3	2.4	0.0	2.4
X>=10.0	42.9	33.3	33.3	4.8	0.0	0.0	9.5	57.1	23.8	14.3	71.4	19.0
X>0 (Total %)	76.2	57.1	47.6	28.6	38.1	52.4	42.9	90.5	61.9	23.8	85.7	57.1
X<=-10.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	14.3	4.8	0.0	4.8
X<0 (Total %)	4.8	14.3	19.0	28.6	4.8	19.0	38.1	4.8	19.0	76.2	14.3	33.3
Net Change in % Exceedance:	71.4	42.9	28.6	0.0	33.3	33.3	4.8	85.7	42.9	-52.4	71.4	23.8
Net Change in 10% Exceedance	42.9	33.3	28.6	4.8	0.0	0.0	9.5	57.1	9.5	9.5	71.4	14.3

**NODOS Alternative B relative to the No Project/No Action Alternative  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	50.0	37.8	59.8	62.2	58.5	61.0	52.4	63.4	42.7	19.5	25.6	17.1
X>=10.0	30.5	13.4	19.5	7.3	4.9	2.4	7.3	15.9	6.1	3.7	20.7	9.8
X>0 (Total %)	98.8	59.8	65.9	59.8	42.7	63.4	54.9	50.0	28.0	7.3	64.6	30.5
X<=-10.0	0.0	0.0	1.2	0.0	2.4	0.0	0.0	0.0	8.5	35.4	0.0	13.4
X<0 (Total %)	1.2	37.8	29.3	31.7	48.8	26.8	31.7	23.2	54.9	92.7	29.3	68.3
Net Change in % Exceedance:	97.6	22.0	36.6	28.0	-6.1	36.6	23.2	26.8	-26.8	-85.4	35.4	-37.8
Net Change in 10% Exceedance	30.5	13.4	18.3	7.3	2.4	2.4	7.3	15.9	-2.4	-31.7	20.7	-3.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	4.9	9.8	12.2	12.2	12.2	12.2	4.9	1.2	9.8	1.2	0.0	3.7
X>=10.0	47.6	33.3	33.3	4.8	0.0	0.0	14.3	57.1	23.8	14.3	71.4	19.0
X>0 (Total %)	95.2	57.1	76.2	33.3	66.7	66.7	57.1	95.2	76.2	28.6	85.7	52.4
X<=-10.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	14.3	9.5	0.0	4.8
X<0 (Total %)	4.8	42.9	19.0	52.4	19.0	19.0	42.9	4.8	23.8	71.4	14.3	42.9
Net Change in % Exceedance:	90.5	14.3	57.1	-19.0	47.6	47.6	14.3	90.5	52.4	-42.9	71.4	9.5
Net Change in 10% Exceedance	47.6	33.3	28.6	4.8	0.0	0.0	14.3	57.1	9.5	4.8	71.4	14.3

**NODOS Alternative B relative to the No Project/No Action Alternative  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	26.8	22.0	52.4	59.8	57.3	54.9	56.1	61.0	40.2	19.5	24.4	11.0
X ≥ 10.0	30.5	14.6	15.9	7.3	3.7	6.1	8.5	17.1	4.9	4.9	23.2	11.0
X > 0 (Total %)	98.8	69.5	73.2	61.0	48.8	61.0	54.9	54.9	29.3	7.3	63.4	28.0
X ≤ -10.0	0.0	1.2	0.0	1.2	2.4	0.0	1.2	0.0	9.8	45.1	0.0	20.7
X < 0 (Total %)	1.2	28.0	22.0	32.9	45.1	30.5	30.5	20.7	52.4	92.7	29.3	70.7
Net Change in % Exceedance:	97.6	41.5	51.2	28.0	3.7	30.5	24.4	34.1	-23.2	-85.4	34.1	-42.7
Net Change in 10% Exceedance	30.5	13.4	15.9	6.1	1.2	6.1	7.3	17.1	-4.9	-40.2	23.2	-9.8
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	2.4	3.7	4.9	8.5	12.2	6.1	7.3	0.0	7.3	1.2	0.0	3.7
X ≥ 10.0	47.6	38.1	19.0	0.0	0.0	9.5	23.8	61.9	19.0	19.0	71.4	23.8
X > 0 (Total %)	95.2	66.7	76.2	57.1	85.7	52.4	52.4	100.0	76.2	28.6	85.7	52.4
X ≤ -10.0	0.0	0.0	0.0	4.8	0.0	0.0	4.8	0.0	14.3	28.6	0.0	19.0
X < 0 (Total %)	4.8	33.3	19.0	38.1	9.5	38.1	47.6	0.0	23.8	71.4	14.3	42.9
Net Change in % Exceedance:	90.5	33.3	57.1	19.0	76.2	14.3	4.8	100.0	52.4	-42.9	71.4	9.5
Net Change in 10% Exceedance	47.6	38.1	19.0	-4.8	0.0	9.5	19.0	61.9	4.8	-9.5	71.4	4.8

## **Alternative C Compared to Existing Condition American River**

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**NODOS Alternative C relative to the Existing Condition  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	56.1	40.2	63.4	59.8	45.1	32.9	23.2	12.2	9.8	17.1	12.2	3.7
X>=10.0	2.4	0.0	0.0	4.9	2.4	0.0	6.1	9.8	2.4	3.7	2.4	12.2
X>0 (Total %)	23.2	30.5	23.2	23.2	12.2	17.1	45.1	15.9	6.1	3.7	19.5	20.7
X<=-10.0	7.3	2.4	2.4	6.1	4.9	4.9	0.0	7.3	36.6	67.1	30.5	43.9
X<0 (Total %)	22.0	48.8	34.1	46.3	68.3	72.0	43.9	75.6	84.1	81.7	78.0	78.0
Net Change in % Exceedance:	1.2	-18.3	-11.0	-23.2	-56.1	-54.9	1.2	-59.8	-78.0	-78.0	-58.5	-57.3
Net Change in 10% Exceedance	-4.9	-2.4	-2.4	-1.2	-2.4	-4.9	6.1	2.4	-34.1	-63.4	-28.0	-31.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	7.3	11.0	13.4	15.9	6.1	8.5	4.9	7.3	1.2	4.9	1.2
X>=10.0	4.8	0.0	0.0	19.0	9.5	0.0	23.8	38.1	9.5	14.3	9.5	47.6
X>0 (Total %)	9.5	33.3	19.0	47.6	38.1	9.5	52.4	61.9	23.8	14.3	19.0	81.0
X<=-10.0	23.8	4.8	9.5	0.0	0.0	14.3	0.0	0.0	33.3	57.1	42.9	0.0
X<0 (Total %)	52.4	42.9	61.9	9.5	4.8	71.4	23.8	23.8	47.6	85.7	71.4	14.3
Net Change in % Exceedance:	-42.9	-9.5	-42.9	38.1	33.3	-61.9	28.6	38.1	-23.8	-71.4	-52.4	66.7
Net Change in 10% Exceedance	-19.0	-4.8	-9.5	19.0	9.5	-14.3	23.8	38.1	-23.8	-42.9	-33.3	47.6

**NODOS Alternative C relative to the Existing Condition  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	59.8	36.6	63.4	59.8	41.5	29.3	18.3	8.5	11.0	15.9	17.1	3.7
X>=10.0	2.4	0.0	0.0	4.9	2.4	0.0	6.1	8.5	2.4	3.7	1.2	12.2
X>0 (Total %)	42.7	45.1	53.7	46.3	19.5	23.2	47.6	17.1	6.1	18.3	18.3	22.0
X<=-10.0	7.3	2.4	2.4	7.3	7.3	6.1	0.0	8.5	37.8	68.3	31.7	45.1
X<0 (Total %)	57.3	54.9	46.3	51.2	79.3	74.4	50.0	82.9	93.9	81.7	81.7	78.0
Net Change in % Exceedance:	-14.6	-9.8	7.3	-4.9	-59.8	-51.2	-2.4	-65.9	-87.8	-63.4	-63.4	-56.1
Net Change in 10% Exceedance	-4.9	-2.4	-2.4	-2.4	-4.9	-6.1	6.1	0.0	-35.4	-64.6	-30.5	-32.9
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	11.0	6.1	9.8	13.4	15.9	6.1	4.9	4.9	8.5	0.0	6.1	1.2
X>=10.0	4.8	0.0	0.0	19.0	9.5	0.0	23.8	33.3	9.5	14.3	4.8	47.6
X>0 (Total %)	23.8	57.1	23.8	81.0	66.7	9.5	57.1	66.7	23.8	19.0	14.3	85.7
X<=-10.0	23.8	4.8	9.5	0.0	0.0	19.0	0.0	0.0	33.3	57.1	47.6	0.0
X<0 (Total %)	76.2	42.9	76.2	9.5	28.6	81.0	38.1	33.3	76.2	81.0	85.7	14.3
Net Change in % Exceedance:	-52.4	14.3	-52.4	71.4	38.1	-71.4	19.0	33.3	-52.4	-61.9	-71.4	71.4
Net Change in 10% Exceedance	-19.0	-4.8	-9.5	19.0	9.5	-19.0	23.8	33.3	-23.8	-42.9	-42.9	47.6

**NODOS Alternative C relative to the Existing Condition  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	17.1	18.3	47.6	43.9	19.5	13.4	11.0	3.7	2.4	2.4	4.9	1.2
X>=10.0	2.4	0.0	0.0	2.4	2.4	0.0	1.2	4.9	1.2	4.9	1.2	9.8
X>0 (Total %)	20.7	24.4	22.0	18.3	9.8	11.0	36.6	15.9	2.4	4.9	9.8	19.5
X<=-10.0	8.5	3.7	1.2	7.3	8.5	9.8	1.2	12.2	51.2	74.4	35.4	48.8
X<0 (Total %)	79.3	75.6	78.0	81.7	90.2	87.8	63.4	84.1	97.6	95.1	90.2	79.3
Net Change in % Exceedance:	-58.5	-51.2	-56.1	-63.4	-80.5	-76.8	-26.8	-68.3	-95.1	-90.2	-80.5	-59.8
Net Change in 10% Exceedance	-6.1	-3.7	-1.2	-4.9	-6.1	-9.8	0.0	-7.3	-50.0	-69.5	-34.1	-39.0
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	0.0	2.4	3.7	4.9	2.4	2.4	0.0	3.7	2.4	0.0	1.2	1.2
X>=10.0	4.8	0.0	0.0	9.5	9.5	0.0	4.8	19.0	4.8	19.0	4.8	38.1
X>0 (Total %)	4.8	23.8	14.3	47.6	33.3	0.0	38.1	61.9	9.5	19.0	9.5	76.2
X<=-10.0	28.6	4.8	4.8	0.0	0.0	33.3	4.8	0.0	38.1	76.2	52.4	4.8
X<0 (Total %)	95.2	76.2	85.7	52.4	66.7	95.2	61.9	38.1	90.5	81.0	90.5	19.0
Net Change in % Exceedance:	-90.5	-52.4	-71.4	-4.8	-33.3	-95.2	-23.8	23.8	-81.0	-61.9	-81.0	57.1
Net Change in 10% Exceedance	-23.8	-4.8	-4.8	9.5	9.5	-33.3	0.0	19.0	-33.3	-57.1	-47.6	33.3

# **Alternative C Compared to No Action Alternative Condition American River**

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**NODOS Alternative C relative to the No Project/No Action Alternative  
American River below Nimbus Reservoir, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	58.5	32.9	59.8	53.7	59.8	64.6	52.4	65.9	34.1	17.1	26.8	14.6
X ≥ 10.0	20.7	8.5	13.4	1.2	4.9	4.9	8.5	14.6	7.3	7.3	15.9	29.3
X > 0 (Total %)	45.1	62.2	40.2	36.6	23.2	32.9	47.6	28.0	22.0	9.8	58.5	45.1
X ≤ -10.0	1.2	0.0	1.2	1.2	2.4	0.0	0.0	0.0	18.3	39.0	3.7	4.9
X < 0 (Total %)	3.7	11.0	9.8	22.0	39.0	26.8	19.5	26.8	50.0	76.8	34.1	52.4
Net Change in % Exceedance:	41.5	51.2	30.5	14.6	-15.9	6.1	28.0	1.2	-28.0	-67.1	24.4	-7.3
Net Change in 10% Exceedance	19.5	8.5	12.2	0.0	2.4	4.9	8.5	14.6	-11.0	-31.7	12.2	24.4
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	13.4	9.8	13.4	11.0	13.4	12.2	9.8	2.4	4.9	0.0	3.7	1.2
X ≥ 10.0	4.8	14.3	19.0	4.8	9.5	0.0	14.3	57.1	28.6	28.6	61.9	66.7
X > 0 (Total %)	57.1	66.7	52.4	47.6	33.3	14.3	42.9	90.5	76.2	38.1	85.7	76.2
X ≤ -10.0	4.8	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0
X < 0 (Total %)	14.3	4.8	9.5	9.5	14.3	52.4	33.3	4.8	4.8	61.9	4.8	23.8
Net Change in % Exceedance:	42.9	61.9	42.9	38.1	19.0	-38.1	9.5	85.7	71.4	-23.8	81.0	52.4
Net Change in 10% Exceedance	0.0	14.3	14.3	4.8	9.5	0.0	14.3	57.1	28.6	19.0	61.9	66.7

**NODOS Alternative C relative to the No Project/No Action Alternative  
American River at Watt Avenue, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	57.3	31.7	59.8	53.7	54.9	58.5	52.4	65.9	37.8	18.3	25.6	14.6
X>=10.0	22.0	8.5	14.6	2.4	7.3	4.9	9.8	15.9	6.1	7.3	17.1	29.3
X>0 (Total %)	90.2	78.0	64.6	65.9	31.7	57.3	54.9	35.4	25.6	9.8	62.2	47.6
X<=-10.0	1.2	0.0	1.2	1.2	2.4	0.0	0.0	0.0	19.5	40.2	2.4	6.1
X<0 (Total %)	9.8	18.3	26.8	26.8	57.3	31.7	30.5	36.6	58.5	90.2	34.1	51.2
Net Change in % Exceedance:	80.5	59.8	37.8	39.0	-25.6	25.6	24.4	-1.2	-32.9	-80.5	28.0	-3.7
Net Change in 10% Exceedance	20.7	8.5	13.4	1.2	4.9	4.9	9.8	15.9	-13.4	-32.9	14.6	23.2
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	12.2	9.8	13.4	11.0	11.0	11.0	8.5	2.4	7.3	1.2	3.7	2.4
X>=10.0	4.8	19.0	19.0	9.5	9.5	0.0	19.0	61.9	23.8	28.6	66.7	66.7
X>0 (Total %)	76.2	95.2	76.2	71.4	47.6	33.3	57.1	95.2	85.7	38.1	90.5	71.4
X<=-10.0	4.8	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0
X<0 (Total %)	23.8	4.8	9.5	14.3	38.1	47.6	38.1	4.8	9.5	61.9	9.5	23.8
Net Change in % Exceedance:	52.4	90.5	66.7	57.1	9.5	-14.3	19.0	90.5	76.2	-23.8	81.0	47.6
Net Change in 10% Exceedance	0.0	19.0	14.3	9.5	9.5	0.0	19.0	61.9	23.8	14.3	66.7	66.7

**NODOS Alternative C relative to the No Project/No Action Alternative  
American River at Mouth, Monthly Flow**

All Years												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
-1.0 < X < 1.0	36.6	25.6	57.3	52.4	48.8	57.3	46.3	64.6	39.0	18.3	28.0	11.0
X ≥ 10.0	19.5	13.4	15.9	3.7	6.1	6.1	8.5	18.3	7.3	7.3	17.1	29.3
X > 0 (Total %)	93.9	78.0	68.3	67.1	46.3	54.9	65.9	41.5	24.4	9.8	61.0	46.3
X ≤ -10.0	2.4	1.2	1.2	0.0	1.2	0.0	0.0	0.0	19.5	43.9	4.9	8.5
X < 0 (Total %)	6.1	18.3	25.6	29.3	50.0	35.4	24.4	32.9	56.1	90.2	35.4	52.4
Net Change in % Exceedance:	87.8	59.8	42.7	37.8	-3.7	19.5	41.5	8.5	-31.7	-80.5	25.6	-6.1
Net Change in 10% Exceedance	17.1	12.2	14.6	3.7	4.9	6.1	8.5	18.3	-12.2	-36.6	12.2	20.7
Low Flow Years (Upper 25% of Distribution)												
-1.0 < X < 1.0	6.1	4.9	7.3	7.3	8.5	9.8	6.1	0.0	8.5	1.2	3.7	3.7
X ≥ 10.0	4.8	28.6	14.3	9.5	9.5	0.0	19.0	71.4	28.6	28.6	66.7	66.7
X > 0 (Total %)	76.2	90.5	76.2	76.2	85.7	14.3	71.4	100.0	81.0	38.1	90.5	81.0
X ≤ -10.0	9.5	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0
X < 0 (Total %)	23.8	9.5	14.3	23.8	14.3	66.7	23.8	0.0	9.5	61.9	9.5	14.3
Net Change in % Exceedance:	52.4	81.0	61.9	52.4	71.4	-52.4	47.6	100.0	71.4	-23.8	81.0	66.7
Net Change in 10% Exceedance	-4.8	28.6	9.5	9.5	9.5	0.0	19.0	71.4	28.6	14.3	66.7	66.7