## Appendix 12E Fisheries Water Temperature Assessment Summary Tables

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



### **APPENDIX 12E**

# Fisheries Water Temperature Assessment Summary Tables

#### 12E.1 Results

This appendix includes the results of the Fisheries Water Temperature Assessment Summary Tables for the Sites Reservoir Project (Project) action alternatives (alternatives) evaluated in the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS). The fisheries impact assessment and methodology is described in Chapter 12 Aquatic Biological Resources and in Appendix 12B Fisheries Impact Assessment Methodology and Appendix 12C Fisheries Impact Summary.

#### 12E.1.1 Introduction

The Fisheries Water Temperature Assessment Summary Tables were the primary tools utilized to assess the potential impacts on fisheries due to changes in water temperatures in the major riverine environments evaluated.

The riverine environments evaluated include:

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

#### The species evaluated include:

- Delta Smelt (*Hypomesus transpacificus*) (Included in Sacramento River)
- 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*)

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:

- Water temperature (°F) relative to water temperature indices (see Appendix 12D Water Temperature Index Value Selection Rationale for water temperature index value justification)
- Water temperature ranges (°F) considered suitable for a particular species and life stage (see Appendix 12D Water Temperature Index Value Selection Rationale for water temperature ranges and justification)

#### 12E.1.2 Methodology

The evaluation methods 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.

Below are examples of how each parameter was evaluated.

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 cold water species indicates that water temperatures exceeded a value that represents the temperature above which physiological or population effects occur (see Appendix 12D Water Temperature Index Value Selection Rationale for water temperature index value justification). If water temperatures exceed an index value less often under an alternative, then conditions are more

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

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.

#### 12E.1.3 Comparisons

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

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



Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
Results



Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
Trinity River







Table AQ-T-1-3a

Coho Salmon	in	Upper	Trinity	River
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	Evaluation	Impact	Location	Criteria	_		Net Ch	ange in Pr	obability o	f Exceedar	nce under	Alternative	A relative	to the No	Action Alte	ernative	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				40	All Years	0.0	0.3	3.6	4.8								0.0
			Trinity Divor below Lowiston	52 57	All Years All Years	-2.5 -2.5	0.0	0.0	0.0								0.0
			Trinity River below Lewiston Dam	60	All Years	-2.5	0.0	0.0	0.0								-0.8 -1.6
			-	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
				40 52	All Years	0.0	-0.8	-3.1	2.5								0.0
	September	Monthly mean		52	All Years All Years	1.9 -2.2	0.0	0.0	0.0								0.0 -2.7
Adult Immigration and Holding	through	water temperatures	Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0								-2.9
	January	(°F)		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
				40 52	All Years All Years	0.0 -1.2	-0.7	-0.6	0.0								0.0
				57	All Years	-0.2	0.0	0.0	0.0								0.0
			Trinity River at North Fork	60	All Years	0.0	0.0	0.0	0.0								-3.8
				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
				40	All Years	0.0	0.3	3.6	4.8	0.2	0.0	0.0	0.0				
			Trinity River below Lewiston	43 48	All Years All Years	0.0	-0.6 0.4	0.0	0.0	0.0	0.0 -5.0	0.0 -1.0	0.0 -0.7				
			Dam	50	All Years	2.3	-0.2	0.0	0.0	0.0	-2.5	-3.8	1.2				
				56	All Years	-4.0	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				
		Monthly mean		40	All Years All Years	0.0	-0.8 -1.3	-3.1 2.2	2.5 0.0	0.0	0.0	0.0	0.0				
Adult Spawning and Embryo	October	water		48	All Years	0.0	-1.5	0.0	0.0	0.0	-2.5	0.0	-1.2				
Incubation	through May	temperatures	Trinity River at Douglas City	50	All Years	-1.3	0.2	0.0	0.0	0.0	0.0	-2.1	-1.2				
		(°F)		56	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0				
				68 40	All Years All Years	0.0	0.0 -0.7	0.0 -0.6	0.0	0.0	0.0	0.0	0.0				
				43	All Years	0.0	-3.7	-1.2	0.0	0.0	0.0	0.0	0.0				
			Trinity River at North Fork	48	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			,	50 56	All Years All Years	-0.2 -2.8	0.1	0.0	0.0	0.0	0.3	0.0	-1.2 0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				41	All Years	0.0	-0.5	0.6	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	0.0	0.4	0.0	0.0	0.0	-5.0	-1.0	-0.7	0.0	0.0	-0.5	0.0
			Trinity River below Lewiston	54 57	All Years All Years	-0.6 -2.5	0.0	0.0	0.0	0.0	1.3 0.0	-1.3 0.0	0.0	1.3 -0.2	1.4 -2.7	-3.3 -2.8	0.7 -0.8
			Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-1.8	-1.6
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-2.0
				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
				77 41	All Years All Years	0.0	0.0 -1.0	0.0	0.0 -2.5	0.0 -0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	0.2	-1.5	0.0	0.0	0.0	-2.5	0.1	-1.2	0.0	0.0	0.0	0.0
		Monthly mean		54	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.9	0.0	0.0	0.0
Juvenile Rearing and Emigration	Year-round	water temperatures	Trinity River at Douglas City	57 60	All Years All Years	-2.2 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8 1.2	0.0	2.9	-2.7
and Emigration		(°F)		64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.2 -1.6	-1.3 -2.1	-2.9 -1.7
				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
				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
				41	All Years All Years	0.0	-0.2 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	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.0	0.0	0.0	0.0
			Trinity River at North Fork	57	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.3
			Thinky hiver at North Tork	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8
				64 70	All Years 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	-1.2 0.0
				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
				50	All Years					0.0	-2.5	-3.8	1.2	1.3			
			Trinity River below Lewiston	59	All Years					0.0	0.0	0.0	0.0	-0.1			
			Dam	62	All Years					0.0	0.0	0.0	0.0	0.0			
		Monthlymes		70 50	All Years All Years					0.0	0.0	0.0 -2.1	0.0 -1.2	0.0			
C	February	Monthly mean water		59	All Years All Years					0.0	0.0	0.0	0.0	1.3			
Smolt Emigration	through June	temperatures	Trinity River at Douglas City	62	All Years					0.0	0.0	0.0	0.0	0.0			
		(°F)		70	All Years					0.0	0.0	0.0	0.0	0.0			
				50	All Years					0.0	0.3	0.0	-1.2	0.0			
			Trinity River at North Fork	59 62	All Years All Years					0.0	0.0	0.0	0.0	0.0 -2.5			
				70	All Years All Years					0.0	0.0	0.0	0.0	0.0			
		ı	1	, 0	rui i cais					0.0	0.0	0.0	0.0	0.0			

Table AQ-T-1-3b
Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River

Life Stage	Evaluation	Impact	Location	Criteria	Danna		Net C	hange in F	Probability of	of Exceeda	nce under /	Alternative	A relative t	o the No A	ction Alter	native	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Trinity River below Lewiston	60	All Years							0.0	0.0	-1.0	-0.7	-1.8	-1.6
			Dam	64	All Years							0.0	0.0	0.0	0.0	-1.2	-2.0
		Monthly mean		68	All Years							0.0	0.0	0.0	0.0	0.0	-0.1
Adult Immigration	April through	water	Trinity Diver at Davides City	60	All Years							0.0	0.0	1.2	1.2	-1.3 -2.1	-2.9
and Holding	September	temperatures	Trinity River at Douglas City	64 68	All Years All Years							0.0	0.0	-0.1 0.0	-1.6 0.0	0.0	-1.7 0.0
		(°F)		60	All Years							0.0	0.0	0.0	0.0	0.0	-3.8
			Trinity River at North Fork	64	All Years							0.0	0.0	0.0	-1.3	-1.9	-1.2
			,	68	All Years							0.0	0.0	0.0	-0.8	-2.1	0.0
				56	All Years	-4.0	0.0									-3.1	0.0
			Trinity River below Lewiston	58	All Years	-2.5	0.0									-3.1	-3.3
			Dam	60	All Years	-0.6	0.0									-1.8	-1.6
				62	All Years	0.0	0.0									-1.5	-2.7
	August	Monthly mean		56	All Years	-4.1	0.0									0.5	1.2
Adult Spawning	through	water	Trinity River at Douglas City	58	All Years	-0.6	0.0									-2.5	0.4
and egg incubation	November	temperatures (°F)		60	All Years	0.0	0.0									-1.3	-2.9 -1.6
		( . ,		62 56	All Years All Years	0.0 -2.8	0.0									-2.9 0.0	-0.1
				58	All Years	-0.8	0.0									0.0	2.5
			Trinity River at North Fork	60	All Years	0.0	0.0									0.0	-3.8
				62	All Years	0.0	0.0									0.0	0.2
				60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-1.8	-1.6
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-2.8
			Trinity Diver below Lewister	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	-1.1
			Trinity River below Lewiston 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	-0.1
			Dani														
				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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	-1.3	-2.9
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-1.4
Juvenile Rearing	Year-round	water	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	-1.1	-1.8	-1.5
and Emigration	rear round	temperatures	Trinky raver at Bodgias Oity	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
		(°F)		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	-0.4	-0.3
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.3	-1.1
			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	-0.8	-2.1	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
							0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.7		
				60 63	All Years All Years	-0.6 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0 0.0	0.0	-1.8 -1.4	-1.6 -2.8
			Trinity River below Lewiston	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	-1.1
			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	-0.1
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	-1.3	-2.9
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-1.4
Smolt Emigration	Year-round	water	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	-1.1	-1.8	-1.5
Smolt Emigration Year-rou	- Fai-Touriu	temperatures	Thinly Tilver at Douglas Oily	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
		(°F)		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
	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
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	-0.4	-0.3
			Trinity River at North Fork	65 68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2 -0.8	1.3 -2.1	-1.1 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
	I		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

Table AQ-T-1-3c
Upper Klamath-Trinity River Fall-run Chinook Salmon in the Trinity River

	Evaluation		Location	Criteria			Net C	Change in P	robability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alter	native	
Life Stage	Evaluation Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			T D	60	All Years	-0.6	0.0	0.0								-1.8	-1.6
			Trinity River below Lewiston Dam	64	All Years	0.0	0.0	0.0								-1.2	-2.0
			Dam	68	All Years	0.0	0.0	0.0								0.0	-0.1
Adult Immigration	August	Monthly mean	Trinity Diver at Davides City	60	All Years	0.0	0.0	0.0								-1.3	-2.9
and Holding	through December	water temperatures (°F)	Trinity River at Douglas City	64 68	All Years All Years	0.0	0.0	0.0								-2.1 0.0	-1.7 0.0
	December	temperatures (1)		60	All Years	0.0	0.0	0.0								0.0	-3.8
			Trinity River at North Fork	64	All Years	0.0	0.0	0.0								-1.9	-1.2
			,	68	All Years	0.0	0.0	0.0								-2.1	0.0
				56	All Years	-4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3			
			Trinity River below Lewiston	58	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0			
			Dam	60 62	All Years All Years	-0.6 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0 0.0			
				56	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2			
Adult Spawning	October	Monthly mean		58	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7			
and egg incubation		water temperatures (°F)	Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
	1	temperatures ( F)		62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1	ĺ		56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Trinity River at North Fork	58	All Years	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			,	60 62	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2 -2.5			
				60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5 -1.0	-0.7	-1.8	-1.6
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-2.8
			T B														
			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	-1.1
			Dain	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	-0.1
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	-1.3	-2.9
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-1.4
Juvenile Rearing	Year-round	water	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	-1.1	-1.8	-1.5
and Emigration		temperatures (°F)		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
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	-0.4	-0.3
			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	-1.2	1.3	-1.1
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-2.1	0.0
	1	ĺ		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
	1	ĺ		60	All Years					0.0	0.0	0.0	0.0	-1.0	-0.7		
		1	Trinity River below Lewiston	63 65	All Years All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1	Dam	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
			Dani	70	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		60	All Years					0.0	0.0	0.0	0.0	1.2	1.2		
		Monthly mean		63	All Years					0.0	0.0	0.0	0.0	-0.7	-1.1		
	February	water	Trinity River at Douglas City	65	All Years					0.0	0.0	0.0	0.0	0.0	-1.1		
<u> </u>	through July	temperatures (°F)		68 70	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		75	All Years All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		60	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		63	All Years					0.0	0.0	0.0	0.0	-1.2	0.0		
	1	ĺ	Trinity River at North Fork	65	All Years					0.0	0.0	0.0	0.0	0.0	-1.2		
		1	many raver at NOTH FOR	68	All Years					0.0	0.0	0.0	0.0	0.0	-0.8		
		1		70	All Years					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		

Table AQ-T-1-3d Steelhead (Winter and Summer-run) in Upper Trinity River

	Evaluation		Location	Criteria			Net C	Change in F	Probability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alter	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Trinity River below Lewiston	52	All Years	-2.5	0.0	0.0	0.0	0.0	0.5	1.6				0.0	0.0
			Dam	56	All Years	-4.0	0.0	0.0	0.0	0.0	0.0	0.0				-3.1	0.0
			24	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
Adult Immigration	August	Monthly mean water		52	All Years	1.9	0.0	0.0	0.0	0.0	0.8	-1.3				0.0	0.0
and Holding	through April	temperatures (°F)	Trinity River at Douglas City	56	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.1				0.5	1.2
(Winter-run)		(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	-1.2	0.0	0.0	0.0	0.0	0.0	-2.5				0.0	0.0
			Trinity River at North Fork	56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0				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
			Trinity River below Lewiston	52	All Years									0.3	1.3	0.0	
			Dam	56	All Years									1.3	-1.7	-3.1	
				70	All Years									0.0	0.0	0.0	
Adult Immigration	June through	Monthly mean water	Tribit. Divers at Develop Oit.	52	All Years									0.0	0.0	0.0	
and Holding (Summer-run)	August	temperatures (°F)	Trinity River at Douglas City	56	All Years									-0.2	-1.2		
(Summer-rum)				70 52	All Years All Years									0.0	0.0	0.0	
			Trinity River at North Fork	56	All Years									0.0	0.0	0.0	
			Illilly River at North Fork	70	All Years									0.0	0.0	0.0	
				52	All Years	-2.5	0.0	0.0	0.0	0.0	0.5	1.6	0.0	0.0	0.0	0.0	
			Trinity River below Lewiston	54	All Years	-0.6	0.0	0.0	0.0	0.0	1.3	-1.3	0.0	1.3			_
			Dam	57	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2			_
			Bam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0			_
				52	All Years	1.9	0.0	0.0	0.0	0.0	0.8	-1.3	1.0	0.0			_
Adult Spawning	October	Monthly mean water		54	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.9			
and egg incubation	through June	temperatures (°F)	Trinity River at Douglas City	57	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8			
99				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
				52	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	-2.5	-1.3	0.0			
				54	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.0			
			Trinity River at North Fork	57	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0			
				60	All Years	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	-1.1
			Trinity River below Lewiston	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	-0.1
			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
				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	-1.1	-1.8	-1.5
Juvenile Rearing		Monthly mean water															
amd Emigration	Year-round	temperatures (°F)	Trinity River at Douglas City	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	-1.2	1.3	-1.1
			Tribite Divers at North Foots	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-2.1	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
	I			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
				52	All Years					0.0	0.5	1.6	0.0	0.3	1.3		
	1		Trinity River below Lewiston	55	All Years					0.0	0.0	0.0	0.0	1.3	-1.1		
	1		Dam	59	All Years					0.0	0.0	0.0	0.0	-0.1	-2.9		
	l			52	All Years					0.0	0.8	-1.3	1.0	0.0	0.0		
Smolt Emigration	February	Monthly mean water	Trinity River at Douglas City	55	All Years					0.0	0.0	0.0	0.0	1.0	0.0		
	through July	temperatures (°F)		59	All Years					0.0	0.0	0.0	0.0	1.3	0.0		
	I			52	All Years					0.0	0.0	-2.5	-1.3	0.0	0.0		
	1		Trinity River at North Fork	55	All Years					0.0	0.0	-1.9	1.2	0.2	0.0		
			'	59	All Years					0.0	0.0	0.0	0.0	0.0	0.0		

Table AQ-T-1-3e Green Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under	Alternative	A relative t	o the No A	ction Alterr	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	February	Monthly mean water	Trinity River at North Fork	61	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-1.2	-1.3	0.1	-2.3
and Holding	through November	temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-0.1	0.6	2.5	-0.2
Adult Spawning	May through August	Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years								0.0	0.0	-0.8	-2.1	
Juvenile Rearing and Emigration	Year-round	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	2.5	-0.2

Table AQ-T-1-3f White Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under	Alternative	A relative t	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	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 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 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	2.5	-0.2

Table AQ-T-1-3g
Pacific Lamprey in the Upper Trinity River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net C	Change in P	robability of	of Exceeda	nce under A	Alternative	A relative t	o the No A	ction Alteri	native	
	Period		Description	Value	90	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January	Manadala and a samual and a	Trinity River Below Lewiston Dam	50-64	All Years				0.0	0.0	-2.5	-3.8	1.2	1.3	1.3	0.3	
and Egg	and Egg through	Monthly mean water temperatures (°F)	Trinity River at Douglas City	50-64	All Years				0.0	0.0	0.0	-2.1	-1.2	0.1	1.6	2.1	
Incubation	and Egg through	tomporatores ( 1 )	Trinity River at North Fork	50-64	All Years				0.0	0.0	0.3	0.0	-1.2	0.0	1.3	1.9	
Ammocoete	Ammocoete	Monthly many water	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
Rearing and	Year-round	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
Emigration	Emigration Fear-round		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>&</sup>lt;sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.







Table AQ-T-1-5a
Coho Salmon in Upper Trinity River

	Evaluation	Impact	Location	Criteria	_		Net C	hange in P	robability of	of Exceedar	nce under	Alternative	B relative	to the No A	Action Alter	rnative	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				40	All Years	0.0	0.3	4.8	3.7								0.0
			Trinity River below Lewiston	52 57	All Years All Years	-1.7 -1.5	0.8	0.0	0.0								0.0
			Dam	60	All Years	-0.5	0.0	0.0	0.0								-3. -1.
				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
				40	All Years	0.0	-0.8	-1.9	3.7								0.0
		Monthly mean		52	All Years	-2.3	0.0	0.0	0.0								0.0
Adult Immigration	September through	water	Trinity River at Douglas City	57	All Years	-3.0	0.0	0.0	0.0								-2.:
and Holding	January	temperatures		60 70	All Years All Years	0.0	0.0	0.0	0.0								-4. 0.9
		(°F)		77	All Years	0.0	0.0	0.0	0.0								0.4
				40	All Years	0.0	-0.7	-0.6	-1.8								0.0
				52	All Years	-1.2	0.0	0.0	0.0								0.0
			Tainin Diverse A New East	57	All Years	-0.2	0.0	0.0	0.0								0.0
			Trinity River at North Fork	60	All Years	0.0	0.0	0.0	0.0								-5.
				70	All Years	0.0	0.0	0.0	0.0								0.5
				77	All Years	0.0	0.0	0.0	0.0								0.0
·				40	All Years	0.0	0.3	4.8	3.7	1.4	0.0	0.0	0.0				
			Turk Direct 1 1 1 1	43 48	All Years	0.0	-1.9	1.2	0.0	0.0	-0.2 5.0	0.0	0.0				
			Trinity River below Lewiston Dam	50	All Years All Years	1.3 0.2	-1.9 -0.4	0.0	0.0	0.0	-5.0 -2.5	2.3 -2.5	-0.7 1.2				
			- Dam	56	All Years	-2.7	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				
				40	All Years	0.0	-0.8	-1.9	3.7	0.0	0.0	0.0	0.0				
Adult Spawning	0.1	Monthly mean		43	All Years	0.0	-1.3	0.9	0.0	0.0	0.0	0.0	0.0				
and Embryo	October through May	water temperatures	Trinity River at Douglas City	48	All Years	-0.2	-1.5	0.0	0.0	0.0	-1.2	0.1	1.3				
Incubation	tilloughtiviay	(°F)	, , ,	50	All Years	-2.5	0.2	0.0	0.0	0.0	0.0	-2.1	-1.2				
				56 68	All Years All Years	-3.4 0.0	0.0	0.0	0.0	0.0	0.0	1.0 0.0	0.0			1	
				40	All Years	0.0	-0.7	-0.6	-1.8	0.0	0.0	0.0	0.0				
				43	All Years	0.0	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0				
			Trinity River at North Fork	48	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			,	50 56	All Years All Years	-0.2 -1.8	0.6	0.0	0.0	0.0	0.3	0.0 -0.5	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2				
				41	All Years	0.0	-1.3	1.8	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	1.3	-1.9	0.0	0.0	0.0	-5.0	2.3	-0.7	1.0	0.0	-0.3	-6.
				54	All Years	-1.3	0.1	0.0	0.0	0.0	1.3	0.0	0.0	1.3	1.4	-5.0	-0.
			Trinity River below Lewiston	57	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-1.3	-1.2	-3.
			Dam	60 64	All Years	-0.5 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0 0.0	-0.7 0.0	0.0	-1 -0.:
				70	All Years All Years	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
				41	All Years	0.0	-1.0	1.2	-5.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	-0.2	-1.5	0.0	0.0	0.0	-1.2	0.1	1.3	0.0	0.0	0.0	0.0
		Monthly mean		54	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	-1.2	0.1	-0.4	0.0	0.0	-2.
Juvenile Rearing	Year-round	water	Trinity River at Douglas City	57	All Years	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	-1.3	1.9	-2.:
and Emigration		temperatures (°F)		60 64	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2 -0.1	0.0 -1.8	-1.3 0.0	-4.: -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	0.9
				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	0.4
				41	All Years	0.0	-0.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	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	-1.2	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.3	0.0	0.0	0.0
			Trinity River at North Fork	57 60	All Years All Years	-0.2 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3 0.2	0.0	0.0	0. -5.
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-2.5	-5. -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.
				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
				50	All Years					0.0	-2.5	-2.5	1.2	-1.2			
			Trinity River below Lewiston	59	All Years					0.0	0.0	0.0	0.0	-1.3			
			Dam	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			
	F-1	Monthly mean		50	All Years					0.0	0.0	-2.1	-1.2	0.3			4
Smolt Emigration	February through June	water temperatures	Trinity River at Douglas City	59	All Years					0.0	0.0	0.0	0.0	0.0			
	oogii ouile	(°F)		62 70	All Years All Years					0.0	0.0	0.0	0.0	0.3			_
				50	All Years					0.0	0.0	0.0	0.0	0.0			
				59	All Years					0.0	0.0	0.0	0.0	1.2			
			Trinity River at North Fork	62	All Years					0.0	0.0	0.0	0.0	-2.5			
	<u> </u>	<u> </u>		70	All Years					0.0	0.0	0.0	0.0	0.0			
	_										_		_				_

Table AQ-T-1-5b
Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River

	Evaluation	Impact	Location	Criteria	_	_	Net C	hange in F	Probability of	of Exceeda	nce under /	Alternative	B relative t	o the No A	ction Alteri	native	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Trinity River below Lewiston	60	All Years							0.0	0.0	-1.0	-0.7	0.0	-1.4
			Dam	64	All Years							0.0	0.0	0.0	0.0	0.0	-0.9
		Monthly mean		68 60	All Years All Years							0.0	0.0	0.0 1.2	0.0	0.0 -1.3	-0.1 -4.2
Adult Immigration	April through	water	Trinity River at Douglas City	64	All Years							0.0	0.0	-0.1	-1.8	0.0	-4.2
and Holding	September	temperatures (°F)	minty rates at Boagiao oity	68	All Years							0.0	0.0	0.0	0.0	0.0	1.1
		(-F)		60	All Years							0.0	0.0	0.2	0.0	0.0	-5.0
			Trinity River at North Fork	64	All Years							0.0	0.0	1.3	0.0	-2.5	-0.1
				68	All Years	0.7						0.0	0.0	0.0	-1.7	0.2	0.9
			Trinity River below Lewiston	56 58	All Years All Years	-2.7 -2.2	0.0									-1.8 -1.0	-1.9 -4.7
			Dam	60	All Years	-0.5	0.0									0.0	-1.4
				62	All Years	0.0	0.0									0.3	-1.4
	A	Monthly mean		56	All Years	-3.4	0.0									0.0	1.0
Adult Spawning	August through	water	Trinity River at Douglas City	58	All Years	-0.5	0.0									-1.3	-0.9
and egg incubation	November	temperatures	minty rates at Boagiao oity	60	All Years	0.0	0.0									-1.3	-4.2
		(°F)		62 56	All Years All Years	0.0 -1.8	0.0									-2.2 0.0	-1.1 -0.1
				58	All Years	-0.6	0.0									0.0	0.0
			Trinity River at North Fork	60	All Years	0.0	0.0									0.0	-5.0
				62	All Years	0.0	0.0									0.0	-0.8
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	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	0.2	-1.4
			Trinity River below Lewiston	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	-0.3
			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	-0.1
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	-1.3	-4.2
		Manthlyman		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-0.1	-0.4
Juvenile Rearing		Monthly mean water		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.2
and Emigration	Year-round	temperatures	Trinity River at Douglas City	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	1.1
		(°F)		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	0.9
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-5.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.7
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.3	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	-1.7	0.2	0.9
				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
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	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	0.2	-1.4
			Trinity River below Lewiston	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	-0.3
			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	-0.1
				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	0.0
				75 CO	All Years	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	Monthly mean		60 63	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2 -0.7	0.0 -1.1	-1.3 -0.1	-4.2 -0.4
	l	water		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.4
Smolt Emigration	Year-round	temperatures	Trinity River at Douglas City	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	1.1
Smolt Emigration Year-re	1	(°F)		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	0.9
		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	0.6
		1		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-5.0
		1		63 65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 -1.2	1.3	-0.7 0.2
	1	1	Trinity River at North Fork	68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2 -1.7	0.2	0.2
	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	0.0	0.5
		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

Table AQ-T-1-5c
Upper Klamath-Trinity River Fall-run Chinook Salmon in the Trinity River

	Eveluation		Location	Criteria			Net C	Change in P	robability	of Exceeda	nce under	Alternative	B relative	to the No A	ction Alter	native	
Life Stage	Evaluation Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			T D	60	All Years	-0.5	0.0	0.0								0.0	-1.4
			Trinity River below Lewiston Dam	64	All Years	0.0	0.0	0.0								0.0	-0.9
			24.11	68	All Years	0.0	0.0	0.0								0.0	-0.1
Adult Immigration	August	Monthly mean	Trinity Diver at Davides City	60	All Years	0.0	0.0	0.0								-1.3 0.0	-4.2
and Holding	through December	water temperatures (°F)	Trinity River at Douglas City	64 68	All Years All Years	0.0	0.0	0.0								0.0	-0.3 1.1
	200020.	tomporataroo ( 1 )		60	All Years	0.0	0.0	0.0								0.0	-5.0
			Trinity River at North Fork	64	All Years	0.0	0.0	0.0								-2.5	-0.1
				68	All Years	0.0	0.0	0.0								0.2	0.9
				56	All Years	-2.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.4			
			Trinity River below Lewiston Dam	58 60	All Years All Years	-2.2 -0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1 -1.0			
			Dain	62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				56	All Years	-3.4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	-0.4			
Adult Spawning	October	Monthly mean	Trinity Diver at Davides City	58	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0			
and egg incubation	through June	water temperatures (°F)	Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3			
		1		56	All Years	-1.8 -0.6	0.0	0.0	0.0	0.0	0.0	-0.5 0.0	0.2	1.3			
		ĺ	Trinity River at North Fork	58 60	All Years All Years	0.0	0.0	0.0	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	0.0	0.0	-2.5			
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	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	0.2	-1.4
			Trinity River below Lewiston	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	-0.3
			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	-0.1
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	-1.3	-4.2
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-0.1	-0.4
Juvenile Rearing		Monthly mean		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.2
and Emigration	Year-round	water	Trinity River at Douglas City	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	1.1
-		temperatures (°F)		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	0.9
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-5.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.7
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.3	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	-1.7	0.2	0.9
				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
				60	All Years	-		***		0.0	0.0	0.0	0.0	-1.0	-0.7		
		1		63	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		ĺ	Trinity River below Lewiston	65	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1	Dam	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		ĺ		70 75	All Years All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1		75 60	All Years All Years					0.0	0.0	0.0	0.0	1.2	0.0		
		l		63	All Years					0.0	0.0	0.0	0.0	-0.7	-1.1		
Small Emigration Febr	February	Monthly mean	Tripity Diver at Develor City	65	All Years					0.0	0.0	0.0	0.0	0.0	-1.0		
Smolt Emigration	through July	water temperatures (°F)	Trinity River at Douglas City	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		
		1		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1		60 63	All Years All Years					0.0	0.0	0.0	0.0	0.2	0.0		
		ĺ		65	All Years					0.0	0.0	0.0	0.0	0.0	-1.2		
		1	Trinity River at North Fork	68	All Years					0.0	0.0	0.0	0.0	0.0	-1.7		
		1		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		

Table AQ-T-1-5d Steelhead (Winter and Summer-run) in Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under	Alternative	B relative	to the No A	ction Alter	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Totale Diverse Laboration	52	All Years	-1.7	0.8	0.0	0.0	0.0	0.5	-1.7				-2.5	0.0
			Trinity River below Lewiston Dam	56	All Years	-2.7	0.0	0.0	0.0	0.0	0.0	0.2				-1.8	-1.9
			Daiii	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
Adult Immigration	August	Monthly mean water		52	All Years	-2.3	0.0	0.0	0.0	0.0	0.8	-1.3				0.0	0.0
and Holding	through April	temperatures (°F)	Trinity River at Douglas City	56	All Years	-3.4	0.0	0.0	0.0	0.0	0.0	1.0				0.0	1.0
(Winter-run)	till Odgi i 7 ipill	temperatures (1)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.9
				52	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	-1.5				0.0	0.0
			Trinity River at North Fork	56	All Years	-1.8	0.0	0.0	0.0	0.0	0.0	-0.5				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
			Trinity River below Lewiston	52	All Years									1.6	1.3	-2.5	
			Dam	56	All Years									1.4	-1.3	-1.8	
				70	All Years									0.0	0.0	0.0	
Adult Immigration	June through	Monthly mean water		52	All Years									1.2	0.0	0.0	
and Holding	August	temperatures (°F)	Trinity River at Douglas City	56	All Years									-0.4	0.0	0.0	
(Summer-run)	Ŭ			70	All Years									0.0	0.0	0.0	
			T	52	All Years									0.0	0.0	0.0	
			Trinity River at North Fork	56	All Years									1.3	0.0	0.0	
				70	All Years	4.7	0.0	0.0	0.0	0.0	0.5	4.7	0.4	0.0	0.0	0.0	
			T	52	All Years	-1.7	0.8	0.0	0.0	0.0	0.5 1.3	-1.7	0.1	1.6			_
			Trinity River below Lewiston	54	All Years	-1.3	0.1	0.0	0.0	0.0		0.0	0.0				_
			Dam	57	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0			_
				60 52	All Years All Years	-0.5 -2.3	0.0	0.0	0.0	0.0	0.0	0.0 -1.3	0.0 1.0	-1.0 1.2			_
Adult Consumina	Ostobox	Manthly mann water		54	All Years	-2.3	0.0	0.0	0.0	0.0	0.0	-1.3	0.1	-0.4			_
Adult Spawning and egg incubation	October through June	Monthly mean water temperatures (°F)	Trinity River at Douglas City	57	All Years	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8			_
and egg meabation	tilloughtouric	temperatures ( 1 )		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
				52	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	-1.5	0.0	0.0			
				54	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.0			
			Trinity River at North Fork	57	All Years	-0.2	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	0.2			
				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	-0.3
			Trinity River below Lewiston	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	-0.1
			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
				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
Juvenile Rearing		Monthly mean water		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.2	-0.2
amd Emigration	Year-round	temperatures (°F)	Trinity River at Douglas City	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	1.1
ama Emigration		temperatures ( 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	0.8
				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
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	1.3	0.2
			T	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.2	0.9
			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	0.2
				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
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.5	-1.7	0.1	1.6	1.3	0.0	0.0
	Ì		Trinity River below Lewiston	55	All Years					0.0	0.0	0.8	0.0	1.1	-1.3		
			Dam	59	All Years					0.0	0.0	0.0	0.0	-1.3	-2.9		
				52	All Years					0.0	0.0	-1.3	1.0	1.2	0.0		
Smolt Emigration	February	Monthly mean water	Trinity River at Douglas City	55	All Years					0.0	0.0	-0.1	0.0	2.3	0.0		
	through July	temperatures (°F)	,	59	All Years					0.0	0.0	0.0	0.0	0.0	1.3		
				52	All Years					0.0	0.0	-1.5	0.0	0.0	0.0		
			Trinity River at North Fork	55	All Years					0.0	0.0	-0.6	1.2	0.2	0.0		
			,	59	All Years					0.0	0.0	0.0	0.0	1.2	0.0		

Table AQ-T-1-5e
Green Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria		Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration	February	Monthly mean water	Trinity River at North Fork	61	All Years	0.0	0.0			0.0	0.0	0.0	0.0	0.0	-1.3	0.1	-2.3		
and Holding through November	temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-0.1	0.6	3.7	1.1			
Adult Spawning	May through August	Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years								0.0	0.0	-1.7	0.2			
Juvenile Rearing and Emigration	Year-round	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	3.7	1.1		

Table AQ-T-1-5f White Sturgeon in the Upper Trinity River

		, po:																	
	Evaluation		Location	Criteria		Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Immigration and Holding	November through May	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						
	February through May	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 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	3.7	1.1		

Table AQ-T-1-5g
Pacific Lamprey in the Upper Trinity River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative												
	Period		Description	Value	90	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adult Spawning		Monthly mean water	Trinity River Below Lewiston Dam	50-64	All Years				0.0	0.0	-2.5	-2.5	1.2	-1.2	1.3	0.4		
and Egg	through	temperatures (°F)	Trinity River at Douglas City	50-64	All Years				0.0	0.0	0.0	-2.1	-1.2	0.4	1.8	0.0		
Incubation	August		Trinity River at North Fork	50-64	All Years				0.0	0.0	0.3	0.0	0.0	-1.3	0.0	2.5		
Ammocoete			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	
Rearing and	Year-round	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	0.8	
Emigration		temperatures (*F)	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	0.2	

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







Table AQ-T-1-7a
Coho Salmon in Upper Trinity River

	Evaluation	Impact	Location	Criteria	_		Net C	hange in P	robability of	of Exceedar	nce under	Alternative	C relative	to the No A	ction Alte	rnative	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				40	All Years	0.0	0.3	6.7	4.8								0.0
			Trinity River below Lewiston	52 57	All Years All Years	-2.9 -4.1	0.8	0.0	0.0								-1. -3.
			Dam	60	All Years	-4.1	0.0	0.0	0.0								-1.
				70	All Years	0.0	0.0	0.0	0.0								0.
				77	All Years	0.0	0.0	0.0	0.0								0.
				40	All Years	0.0	-0.9	-1.9	3.7								0.
	0	Monthly mean		52	All Years	-3.1	0.0	0.0	0.0								0.
Adult Immigration	September through	water	Trinity River at Douglas City	57	All Years	-3.1	0.0	0.0	0.0								-1
and Holding	January	temperatures (°F)		60 70	All Years All Years	0.0	0.0	0.0	0.0								-4 0.
		(1)		77	All Years	0.0	0.0	0.0	0.0								0.
				40	All Years	0.0	-0.7	-0.6	-0.6								0.
				52	All Years	-1.2	0.0	0.0	0.0								0.
			Trinity River at North Fork	57	All Years	-0.2	0.0	0.0	0.0								-0
			THIRTY THEOL ACTION OF THE	60	All Years	0.0	0.0	0.0	0.0								-3.
				70	All Years	0.0	0.0	0.0	0.0								0.
				77	All Years	0.0	0.0	0.0	0.0								0.0
				40	All Years All Years	0.0	0.3 -1.9	6.7 1.2	4.8 0.0	0.0	0.0	0.0	0.0				
			Trinity River below Lewiston	48	All Years	0.0	-1.9	0.0	0.0	0.0	-3.7	-1.0	-0.7				
			Dam	50	All Years	-1.2	-0.4	0.0	0.0	0.0	-3.3	-2.5	1.2				
				56	All Years	-5.2	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				
		Manadali		40	All Years	0.0	-0.9	-1.9	3.7	0.0	0.0	0.0	0.0				_
Adult Spawning	October	Monthly mean water		43 48	All Years All Years	0.0	-1.3 -1.5	0.9	0.0	0.0	0.0 -1.2	0.0	0.0 -1.2				1
and Embryo Incubation	through May	temperatures	Trinity River at Douglas City	50	All Years	-2.5	0.2	0.0	0.0	0.0	0.0	-2.1	-1.2				
incubation		(°F)		56	All Years	-6.3	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	0.0	0.0				
				40	All Years	0.0	-0.7	-0.6	-0.6	0.0	0.0	0.0	0.0				-
				43 48	All Years All Years	0.0	-3.7 0.0	-1.2 0.0	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	0.0	0.0	0.0				
				56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	-0.3	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				41	All Years	0.0	-0.5	1.2	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 -5.
				48 54	All Years All Years	0.0 -3.3	-1.9 0.2	0.0	0.0	0.0	-3.7 1.3	-1.0 -1.3	-0.7 0.0	0.2 1.3	1.2 1.4	0.2 -6.1	-5. 2.
			Trinity River below Lewiston	57	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-1.4	-2.8	-3.
			Dam	60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-2.0	-1.
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-1.
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				77 41	All Years All Years	0.0	0.0 -1.0	0.0	0.0 -2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	0.0	-1.5	0.0	0.0	-0.1 0.0	-1.2	0.0	-1.2	0.0	0.0	0.0	0.0
		Monthly mean		54	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.7	0.0	0.0	-2.
Juvenile Rearing	Year-round	water	Trinity River at Douglas City	57	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0	0.0	2.5	-1.
and Emigration	rear round	temperatures	Thinky Thiver at Bodgias Oity	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	-3.8	-4.
		(°F)		64 70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1 0.0	-1.6 0.0	-2.3 0.0	-0. 0.0
				77	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				41	All Years	0.0	-0.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	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	-3.7	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.0	0.0	0.0	0.
			Trinity River at North Fork	57	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.
				60 64	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2 2.5	0.0	0.0 -1.9	-3. -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	-U. 0.
	<u></u>	<u>[</u>		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.
_				50	All Years					0.0	-3.3	-2.5	1.2	0.0			
			Trinity River below Lewiston	59	All Years					0.0	0.0	0.0	0.0	-1.2			
			Dam	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			
	F-1	Monthly mean		50	All Years					0.0	0.0	-2.1	-1.2	0.0			
Smolt Emigration	February through June	water temperatures	Trinity River at Douglas City	59 62	All Years All Years					0.0	0.0	0.0	0.0	0.0			
	ougiround	(°F)		70	All Years All Years					0.0	0.0	0.0	0.0	-1.0 0.0			
				50	All Years					0.0	0.3	0.0	0.0	0.0			
			Table Division (N. 11 5 )	59	All Years					0.0	0.0	0.0	0.0	0.0			
		1		62	All Years					0.0	0.0	0.0	0.0	-1.3			
				- 02	7111 10010												

Table AQ-T-1-7b
Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River

Life Stage		on Impact			Danna														
	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
			Trinity River below Lewiston	60	All Years							0.0	0.0	-1.0	-0.7	-2.0	-1.5		
			Dam	64	All Years							0.0	0.0	0.0	0.0	-1.2	-1.5		
		Monthly mean		68	All Years							0.0	0.0	0.0	0.0	0.0	-0.1		
Adult Immigration	April through	water	Trinity Diver at Davides City	60	All Years							0.0	0.0	1.4	1.2	-3.8 -2.3	-4.3		
and Holding	September	temperatures	Trinity River at Douglas City	64 68	All Years All Years							0.0	0.0	-0.1 0.0	-1.6 0.0	0.0	-0.5 0.0		
		(°F)		60	All Years							0.0	0.0	0.0	0.0	0.0	-3.8		
			Trinity River at North Fork	64	All Years							0.0	0.0	2.5	0.0	-1.9	-0.6		
			Thinky thron actional tonk	68	All Years							0.0	0.0	0.0	-2.5	-2.1	0.0		
				56	All Years	-5.2	0.0									-3.1	-1.5		
			Trinity River below Lewiston	58	All Years	-4.4	0.0									-3.1	-4.7		
			Dam	60	All Years	-0.9	0.0									-2.0	-1.5		
				62	All Years	0.0	0.0									-1.6	-1.7		
	August	Monthly mean		56	All Years	-6.3	0.0									-0.2	1.6		
Adult Spawning	through	water	Trinity River at Douglas City	58	All Years	-0.8	0.0									-1.3	0.4		
and egg incubation	November	temperatures (°F)	,	60	All Years	0.0	0.0									-3.8	-4.3		
		()		62	All Years	0.0	0.0									-3.5	-1.2		
				56 58	All Years All Years	-2.8 -0.7	0.0									0.0	-0.1 1.2		
			Trinity River at North Fork	60	All Years	0.0	0.0									0.0	-3.8		
				62	All Years	0.0	0.0									0.0	-0.8		
		İ		60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-2.0	-1.5		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-1.9		
			T B			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	-1.1		
			Daiii	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	-0.1		
	Year-round			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		
		Monthly mean water		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		
			Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	-3.8	-4.3		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-0.5		
Juvenile Rearing				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.9	-1.5		
and Emigration	rear-round	temperatures		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		
		(°F)		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	-0.9		
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.2	2.5	-0.9		
			Trinity River at North Fork	68		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-2.1			
				70	All Years	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		
				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	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-2.0	-1.5		
			Trinit. Diversity I aminton	63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-1.9		
			Trinity River below Lewiston Dam	65 68	All Years 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 -0.1		
			Daiii	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	-3.8	-4.3		
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-0.5		
Consit Emigrati	Vaar raus -1	water	Trinity Diver at Davids - O't	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.9	-1.5		
Smolt Emigration	Year-round	temperatures	Trinity River at Douglas City	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		
		(°F)		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-3.8		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	-0.9		
			Trinity River at North Fork	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.2	2.5	-0.9		
			,	68 70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-2.1	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			

Table AQ-T-1-7c
Upper Klamath-Trinity River Fall-run Chinook Salmon in the Trinity River

	Evaluation		Location	Criteria		Net Change in Probability of Exceedance under Alternative C 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		
			T	60	All Years	-0.9	0.0	0.0								-2.0	-1.5		
			Trinity River below Lewiston Dam	64	All Years	0.0	0.0	0.0								-1.2	-1.5		
			Dan	68	All Years	0.0	0.0	0.0								0.0	-0.1		
Adult Immigration	August	Monthly mean	Trinity Diver at Davidea City	60	All Years	0.0	0.0	0.0								-3.8 -2.3	-4.3		
and Holding	through December	water temperatures (°F)	Trinity River at Douglas City	64 68	All Years All Years	0.0	0.0	0.0								0.0	-0.5 0.0		
	200020.	tomporataroo ( 1 )		60	All Years	0.0	0.0	0.0								0.0	-3.8		
			Trinity River at North Fork	64	All Years	0.0	0.0	0.0								-1.9	-0.6		
				68	All Years	0.0	0.0	0.0								-2.1	0.0		
				56	All Years	-5.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.4					
			Trinity River below Lewiston Dam	58 60	All Years	-4.4 -0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1 -1.0					
			Daili	62	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				56	All Years	-6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Spawning	October	Monthly mean	Trinit. Divers at Develop Oit.	58	All Years	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7					
and egg incubation	through June	water temperatures (°F)	Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4					
	1	porataroo ( 1 )		62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0					
	1	ĺ		56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0					
		ĺ	Trinity River at North Fork	58 60	All Years All Years	-0.7 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	-1.3					
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-2.0	-1.5		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-1.9		
			Trinity River below Lewiston	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	-1.1		
			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	-0.1		
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	-3.8	-4.3		
			Trinity River at Douglas City	63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.1	-1.3	-0.5		
harrella Bandan		Monthly mean water		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.3	-0.5		
Juvenile Rearing and Emigration	Year-round			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		
and Emigration		temperatures (°F)		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8		
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	-0.9		
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.2	2.5	-0.9		
			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	-1.2	-2.1	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		
		ĺ		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	0.0	0.0		
		ĺ		63	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
		1	Trinity River below Lewiston	65	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
		1	Dam	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
	1	ĺ		70	All Years					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				
	1	ĺ		60	All Years					0.0	0.0	0.0	0.0	1.4	1.2				
	February	Monthly mean		63 65	All Years All Years					0.0	0.0	0.0	0.0	-0.7 0.0	-1.1 -1.1				
Smolt Emigration	through July	water	Trinity River at Douglas City	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
	",	temperatures (°F)		70	All Years					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				
		1		60	All Years					0.0	0.0	0.0	0.0	0.2	0.0				
	1	ĺ		63	All Years					0.0	0.0	0.0	0.0	-1.2	0.0				
		1	Trinity River at North Fork	65 68	All Years All Years					0.0	0.0	0.0	0.0	-0.4 0.0	-1.2 -2.5				
		1		70	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
		ĺ		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0				
								_											

Table AQ-T-1-7d Steelhead (Winter and Summer-run) in Upper Trinity River

	Evaluation		Location	Criteria		Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative													
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
			Tuloth Diversity of the Constitution	52	All Years	-2.9	0.8	0.0	0.0	0.0	0.6	-0.9				0.0	-1.7		
			Trinity River below Lewiston Dam	56	All Years	-5.2	0.0	0.0	0.0	0.0	0.0	0.2				-3.1	-1.5		
			Daiii	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0		
Adult Immigration	August	Monthly moon water		52	All Years	-3.1	0.0	0.0	0.0	0.0	0.8	-1.3				0.0	0.0		
and Holding	August through April	Monthly mean water temperatures (°F)	Trinity River at Douglas City	56	All Years	-6.3	0.0	0.0	0.0	0.0	0.0	0.0				-0.2	1.6		
(Winter-run)	tillough Apill	temperatures (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	-1.2	0.0	0.0	0.0	0.0	0.0	-2.5				0.0	0.0		
			Trinity River at North Fork	56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	-0.3				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		
			Trinity River below Lewiston	52	All Years									0.3	-1.2	0.0			
			Dam	56	All Years									1.4	-1.8	-3.1			
				70	All Years									0.0	0.0	0.0			
Adult Immigration	June through	Monthly mean water		52	All Years									0.0	0.0	0.0			
and Holding	August	temperatures (°F)	Trinity River at Douglas City	56	All Years									0.1	-1.2	-0.2			
(Summer-run)	Ŭ			70	All Years									0.0	0.0	0.0			
			Trinite Diverset North Fort	52	All Years									0.0	0.0	0.0			
			Trinity River at North Fork	56	All Years									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				
			Trinit Diversity I aminton	52	All Years	-2.9	0.8	0.0	0.0	0.0	0.6 1.3	-0.9	0.0	0.3					
			Trinity River below Lewiston	54	All Years	-3.3	-	0.0	0.0	0.0		-1.3	0.0	1.3					
			Dam	57 60	All Years	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0					
				52	All Years All Years	-0.9 -3.1	0.0	0.0	0.0	0.0	0.0	0.0 -1.3	0.0 1.0	-1.0 0.0					
Adult Consumina	Ostobox	Manthly mann water		54	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0					
Adult Spawning and egg incubation	October through June	Monthly mean water temperatures (°F)		57	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0					
and egg medbation	through bunc	temperatures ( 1 )		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4			_		
				52	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	-2.5	-1.3	0.0			_		
				54	All Years	-3.7	0.0	0.0	0.0	0.0	0.0	1.3	-0.7	0.0					
			Trinity River at North Fork	57	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0					
				60	All Years	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	-1.1		
			Trinity River below Lewiston	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	-0.1		
			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		
				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		
Juvenile Rearing		Monthly mean water		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.9	-1.5		
amd Emigration	Year-round	temperatures (°F)	Trinity River at Douglas City	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		
g				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	-0.4	-1.2	2.5	-0.9		
			Trinite Diverset North Fort	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	-2.1	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		
				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		
				52	All Years					0.0	0.6	-0.9	0.0	0.3	-1.2				
			Trinity River below Lewiston	55	All Years					0.0	0.0	0.8	0.0	1.1	-1.3				
			Dam	59	All Years					0.0	0.0	0.0	0.0	-1.2	-2.9				
	Ì			52	All Years					0.0	0.8	-1.3	1.0	0.0	0.0				
Smolt Emigration	February	Monthly mean water	Trinity River at Douglas City	55	All Years					0.0	0.0	0.7	0.0	1.0	0.0				
. 3	through July	temperatures (°F)	,	59	All Years					0.0	0.0	0.0	0.0	0.0	2.5				
				52	All Years					0.0	0.0	-2.5	-1.3	0.0	0.0				
	Ì		Trinity River at North Fork	55	All Years					0.0	0.0	-1.9	0.0	0.2	0.0				
			minity raiver at North FORK	59	All Years					0.0	0.0	0.0	0.0	0.0	0.0				

Table AQ-T-1-7e Green Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	C relative t	to the No A	ction Alterr	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	February	Monthly mean water	Trinity River at North Fork	61	All Years	0.0	0.0			0.0	0.0	0.0	0.0	0.0	-1.3	0.4	-2.3
and Holding	through November	temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-0.1	1.8	2.5	-0.2
Adult Spawning	May through August	Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years								0.0	0.0	-2.5	-2.1	
Juvenile Rearing and Emigration	Year-round	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	1.8	2.5	-0.2

Table AQ-T-1-7f White Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria	_		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	C relative t	to the No A	ction Altern	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	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 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 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	1.8	2.5	-0.2

Table AQ-T-1-7g
Pacific Lamprey in the Upper Trinity River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net C	change in P	Probability of	of Exceeda	nce under	Alternative	C relative t	o the No A	ction Alter	native	
	Period		Description	Value	90	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Trinity River Below Lewiston Dam	50-64	All Years				0.0	0.0	-3.3	-2.5	1.2	0.0	2.5	2.2	
and Egg	through	Monthly mean water temperatures (°F)	Trinity River at Douglas City	50-64	All Years				0.0	0.0	0.0	-2.1	-1.2	0.1	1.6	2.3	
Incubation		temperatures (1)	Trinity River at North Fork	50-64	All Years				0.0	0.0	0.3	0.0	0.0	-2.5	0.0	1.9	
Ammocoete	Ammocoete	Manadala ana ana ana ana	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
Rearing and	Year-round	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
Emigration	Emigration	tomporatures ( 1 )	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>&</sup>lt;sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.







Table AQ-T-1-9a Coho Salmon in Upper Trinity River

Life Ct	Evaluation	Impact	Location	Criteria	Don		Net C	hange in P	robability o	f Exceeda	nce under	Alternative	D relative	to the No A	ction Alter	rnative	
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				40	All Years	0.0	0.5	-0.8	6.0								0.0
				52	All Years	0.4	0.0	0.0	0.0								3.1
			Trinity River below Lewiston Dam	57 60	All Years All Years	-4.5 -0.9	0.0	0.0	0.0								1.7 0.2
			Dain	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
				40	All Years	0.0	-0.8	-2.7	2.5								0.0
	September	Monthly mean		52	All Years	0.6	0.0	0.0	0.0								0.8
Adult Immigration	through	water	Trinity River at Douglas City	57 60	All Years All Years	-3.0 0.0	0.0	0.0	0.0								1.8
and Holding	January	temperatures (°F)		70	All Years	0.0	0.0	0.0	0.0								-0.9 0.0
		( )		77	All Years	0.0	0.0	0.0	0.0								0.0
				40	All Years	0.0	-0.7	-0.6	-1.8								0.0
				52	All Years	0.0	0.0	0.0	0.0								0.0
			Trinity River at North Fork	57	All Years	-0.1	0.0	0.0	0.0								0.2
				60 70	All Years	0.0	0.0	0.0	0.0								0.0
				77	All Years All Years	0.0	0.0	0.0	0.0								0.0
				40	All Years	0.0	0.5	-0.8	6.0	1.4	0.0	0.0	0.0				0.0
				43	All Years	0.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0				
			Trinity River below Lewiston	48	All Years	4.4	-1.8	0.0	0.0	0.0	-2.5	0.9	-1.0				
			Dam	50	All Years	4.0	0.2	0.0	0.0	0.0	-3.7	-1.3	0.0				
				56 68	All Years All Years	-4.5 0.0	0.0	0.0	0.0	0.0	0.0	1.1 0.0	0.0				
				40	All Years	0.0	-0.8	-2.7	2.5	0.0	0.0	0.0	0.0				
Adult Spawning		Monthly mean		43	All Years	0.0	-1.3	1.8	0.0	0.0	0.0	0.0	0.0				
and Embryo	October through May	water temperatures	Trinity River at Douglas City	48	All Years	-1.1	-1.5	0.0	0.0	0.0	-1.2	0.1	-1.2				
Incubation	tillough way	(°F)	, ,	50	All Years	-1.3	-1.0	0.0	0.0	0.0	0.0	-2.1	-1.2				
				56 68	All Years All Years	-6.0 0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0				
				40	All Years	0.0	-0.7	-0.6	-1.8	0.0	0.0	0.0	0.0				
				43	All Years	0.0	-2.5	-1.2	0.0	0.0	0.0	0.0	0.0				
			Trinity River at North Fork	48 50	All Years All Years	0.0 -0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				56	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0				
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				41	All Years	0.0	-1.3	0.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48 54	All Years All Years	4.4 -0.5	-1.8 0.0	0.0	0.0	0.0	-2.5 1.3	0.9 1.2	-1.0 0.0	-1.3 1.3	2.5 0.7	1.6 -4.2	0.0 4.1
			Trinity River below Lewiston	57	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.2	-1.3	1.7
			Dam	60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.7	0.2
				64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.8
				70 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
				41	All Years All Years	0.0	0.0 -1.1	0.0 -3.2	0.0 -2.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48	All Years	-1.1	-1.5	0.0	0.0	0.0	-1.2	0.1	-1.2	0.0	0.0	0.0	0.0
		Monthly mean		54	All Years	1.5	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-0.4	0.0	0.0	1.2
Juvenile Rearing	Year-round	water	Trinity River at Douglas City	57	All Years	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0	-1.3	1.2	1.8
and Emigration		temperatures (°F)		60 64	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2 -0.1	-1.3 -1.3	-3.2 -0.6	-0.9 -0.5
		, ,		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	0.0
				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
				41	All Years	0.0	-0.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				48 54	All Years	0.0 1.3	0.0	0.0	0.0	0.0	0.0	0.0 2.5	0.0	0.0	0.0	0.0	0.0
				57	All Years 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
			Trinity River at North Fork	60	All Years	0.0	0.0	0.0	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	0.0	0.0	1.9	-1.3	-1.9	-0.8
				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
				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
			Trinity River below Lewiston	50 59	All Years					0.0	-3.7	-1.3	0.0	-1.2 -1.3			
			Dam	62	All Years 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			
		Monthly mean		50	All Years					0.0	0.0	-2.1	-1.2	0.0			
Smolt Emigration	February	water	Trinity River at Douglas City	59	All Years					0.0	0.0	0.0	0.0	1.3			
<b>3</b> 31.	through June	temperatures (°F)	, at Douglab Oily	62	All Years					0.0	0.0	0.0	0.0	-1.2			
		(1)		70 50	All Years All Years					0.0	0.0	0.0	0.0	0.0			
				59	All Years All Years					0.0	0.3	0.0	0.0	0.0			
			Trinity River at North Fork	62	All Years					0.0	0.0	0.0	0.0	-1.3			
										0.0	0.0	0.0	0.0	0.0			

Table AQ-T-1-9b
Upper Klamath-Trinity River Spring-run Chinook Salmon in the Upper Trinity River

	Evaluation	Impact	Location	Criteria			Net C	hange in F	Probability	of Exceeda	nce under /	Alternative	D relative	to the No A	ction Alter	native	-
Life Stage	Period	Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Trinity River below Lewiston	60	All Years							0.0	0.0	-1.0	-0.7	-0.7	0.2
			Dam	64	All Years							0.0	0.0	0.0	0.0	-1.0	-1.8
		Monthly mean		68 60	All Years All Years							0.0	0.0	0.0 1.2	0.0 -1.3	0.0 -3.2	-0.1 -0.9
Adult Immigration	April through	water	Trinity River at Douglas City	64	All Years							0.0	0.0	-0.1	-1.3	-0.6	-0.9
and Holding	September	temperatures	Timity Tilver at Boaglas Oity	68	All Years							0.0	0.0	0.0	0.0	0.0	0.0
		(°F)		60	All Years							0.0	0.0	-0.2	0.0	0.0	0.0
			Trinity River at North Fork	64	All Years							0.0	0.0	1.9	-1.3	-1.9	-0.8
				68	All Years							0.0	0.0	0.0	-1.9	-0.9	0.0
				56	All Years	-4.5	0.0									-1.4	2.7
			Trinity River below Lewiston Dam	58 60	All Years All Years	-4.4 -0.9	0.0									-1.5 -0.7	-0.8 0.2
			Daili	62	All Years	0.0	0.0									-0.7	-1.3
		Monthly mean		56	All Years	-6.0	0.0									0.1	-0.9
Adult Spawning	August	water	T D D O.	58	All Years	-0.6	0.0									-6.3	2.3
and egg incubation	through November	temperatures	Trinity River at Douglas City	60	All Years	0.0	0.0									-3.2	-0.9
	November	(°F)		62	All Years	0.0	0.0									-3.2	-0.7
				56	All Years	-3.1	0.0									0.0	-0.1
			Trinity River at North Fork	58	All Years	-0.6	0.0									0.0	3.7
			·	60 62	All Years All Years	0.0	0.0									0.0	0.0
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.7	0.2
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.6
			T D														
			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	-1.1 -0.1
			Dani	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-1.3	-3.2	-0.9
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.1	0.0	-0.3
Juvenile Rearing	Year-round	water	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	-1.0	-0.6	-1.5
and Emigration		temperatures (°F)	, , ,	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)		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	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	-1.1	-1.2	-4.2	0.1
			Trinity River at North Fork	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-3.3	1.3	-0.8
			Thinly the at North ork	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-0.9	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
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.7	0.2
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.6
			Trinity River below Lewiston	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	-1.1
			Dam	68 70	All Years All 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	All Years	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	1.2	-1.3	-3.2	-0.9
		Monthly mean		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.1	0.0	-0.3
Smolt Emigration	Year-round	water	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	-1.0	-0.6	-1.5
Smolt Emigration	rear-round	temperatures	Timity river at Douglas Oily	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
		(°F)		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
		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
		1		60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
		1		63 65	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1 -1.0	-1.2 -3.3	-4.2 1.3	0.1 -0.8
		1	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	-3.3	-0.9	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	0.0	0.0
	1	I		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
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Table AQ-T-1-9c
Upper Klamath-Trinity River Fall-run Chinook Salmon in the Trinity River

	Evaluation		Location	Criteria			Net C	Change in P	robability	of Exceeda	nce under	Alternative	D relative	to the No A	ction Alter	native	
Life Stage	Evaluation Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			T D	60	All Years	-0.9	0.0	0.0								-0.7	0.2
			Trinity River below Lewiston Dam	64	All Years	0.0	0.0	0.0								-1.0	-1.8
			Dan	68	All Years	0.0	0.0	0.0								0.0	-0.1
Adult Immigration	August	Monthly mean	Trinity Diver at Davidea City	60	All Years	0.0	0.0	0.0								-3.2	-0.9
and Holding	through December	water temperatures (°F)	Trinity River at Douglas City	64 68	All Years All Years	0.0	0.0	0.0								-0.6 0.0	-0.5 0.0
	200020.	tomporataroo ( 1 )		60	All Years	0.0	0.0	0.0								0.0	0.0
			Trinity River at North Fork	64	All Years	0.0	0.0	0.0								-1.9	-0.8
				68	All Years	0.0	0.0	0.0								-0.9	0.0
				56	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.3			
			Trinity River below Lewiston Dam	58 60	All Years All Years	-4.4 -0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8 -1.0			
			Daili	62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				56	All Years	-6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4			
Adult Spawning	October	Monthly mean	Trinit. Divers at Develop Oit.	58	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
and egg incubation	through June	water temperatures (°F)	Trinity River at Douglas City	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
	1	porataroo ( 1 )		62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2			
	1	ĺ		56	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0			
		ĺ	Trinity River at North Fork	58 60	All Years All Years	-0.6 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2 -0.2			
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2			
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.7	0.2
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.6
			Trinity River below Lewiston	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	-1.1
			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	-0.1
				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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-1.3	-3.2	-0.9
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.1	0.0	-0.3
harrella Bandan		Monthly mean		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.6	-0.3
Juvenile Rearing and Emigration	Year-round	water	Trinity River at Douglas City	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
and Emigration		temperatures (°F)		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	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	-0.2	-1.2	-4.2	0.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-3.3	1.3	-0.8
			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	-3.3	-0.9	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
		ĺ		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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	0.0	0.0
		ĺ		63	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1	Trinity River below Lewiston	65	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1	Dam	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		70	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		ĺ		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		60	All Years					0.0	0.0	0.0	0.0	1.2	-1.3		
	February	Monthly mean		63 65	All Years All Years					0.0	0.0	0.0	0.0	-0.7 0.0	0.1 -1.0		
Smolt Emigration	through July	water	Trinity River at Douglas City	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	,	temperatures (°F)		70	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
		1		60	All Years					0.0	0.0	0.0	0.0	-0.2	0.0		
	1	ĺ		63	All Years					0.0	0.0	0.0	0.0	-1.1	-1.2		
		1	Trinity River at North Fork	65 68	All Years All Years					0.0	0.0	0.0	0.0	-1.0 0.0	-3.3 -1.9		
		ĺ		70	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	1	ĺ		75	All Years					0.0	0.0	0.0	0.0	0.0	0.0		
	•		•						_								

Table AQ-T-1-9d Steelhead (Winter and Summer-run) in Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability of	of Exceeda	nce under	Alternative	D relative	to the No A	ction Alteri	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Trinity River below Lewiston	52	All Years	0.4	0.0	0.0	0.0	0.0	0.5	1.6				-1.2	3.1
			Dam	56	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	1.1				-1.4	2.7
			54	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
Adult Immigration	August	Monthly mean water		52	All Years	0.6	0.0	0.0	0.0	0.0	0.8	-1.3				0.0	0.8
and Holding	through April	temperatures (°F)	Trinity River at Douglas City	56	All Years	-6.0	0.0	0.0	0.0	0.0	0.0	0.2				0.1	-0.9
(Winter-run)				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	-2.5				0.0	0.0
			Trinity River at North Fork	56	All Years	-3.1	0.0	0.0	0.0	0.0	0.0	0.3				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
			Trinity River below Lewiston	52	All Years									-1.8	-1.2	-1.2	
			Dam	56	All Years									1.3	-1.1	-1.4	
al de la constance				70 52	All Years All Years		<b>.</b>							0.0	0.0	0.0	
Adult Immigration and Holding	June through	Monthly mean water	Trinity River at Douglas City	56	All Years									-1.4	-1.2	0.0	
(Summer-run)	August	temperatures (°F)	Triffity River at Douglas City	70	All Years									0.0	0.0	0.0	
(Gailline Tall)				52	All Years									0.0	0.0	0.0	
			Trinity River at North Fork	56	All Years									0.0	0.0	0.0	
			Timity Tilver at North Fork	70	All Years		1							0.0	0.0	0.0	
				52	All Years	0.4	0.0	0.0	0.0	0.0	0.5	1.6	0.0	-1.8	0.0	0.0	
			Trinity River below Lewiston	54	All Years	-0.5	0.0	0.0	0.0	0.0	1.3	1.2	0.0	1.3			
			Dam	57	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2			
				60	All Years	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0			
				52	All Years	0.6	0.0	0.0	0.0	0.0	0.8	-1.3	-0.2	0.0			
Adult Spawning	October	Monthly mean water		54	All Years	1.5	0.0	0.0	0.0	0.0	0.0	1.3	0.0	-0.4			
nd egg incubation		temperatures (°F)	Trinity River at Douglas City	57	All Years	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0			
	_			60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2			
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0			
			Tricite Discount North Foot	54	All Years	1.3	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0			
			Trinity River at North Fork	57	All Years	-0.1	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	-0.2			
				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	-1.1
			Trinity River below Lewiston	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	-0.1
			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
				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	-1.0	-0.6	-1.5
Juvenile Rearing	Year-round	Monthly mean water		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
amd Emigration	rear-round	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
				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	-1.0	-3.3	1.3	-0.8
			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	-1.9	-0.9	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
				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
			Trinity River below Lewiston	52	All Years					0.0	0.5	1.6	0.0	-1.8	-1.2		
	Ì	ĺ	Dam	55	All Years					0.0	0.0	1.2	0.0	1.7	-0.9		
		ĺ	Dani	59	All Years					0.0	0.0	0.0	0.0	-1.3	-2.3		
	February	Monthly mean water		52	All Years					0.0	0.8	-1.3	-0.2	0.0	0.0		
Smolt Emigration	through July	temperatures (°F)	Trinity River at Douglas City	55	All Years					0.0	0.0	1.1	0.0	0.0	-1.2		
				59	All Years					0.0	0.0	0.0	0.0	1.3	-1.8		
		ĺ		52	All Years					0.0	0.0	-2.5	0.0	0.0	0.0		
		ĺ	Trinity River at North Fork	55	All Years					0.0	0.0	-0.6	0.0	0.0	0.0		
		1		59	All Years					0.0	0.0	0.0	0.0	0.0	0.0		

Table AQ-T-1-9e Green Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	D relative t	to the No A	ction Alterr	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration	February	Monthly mean water	Trinity River at North Fork	61	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-1.2	-2.5	0.1	0.2
and Holding	through November	temperatures (°F)	Trinity River at North Fork	66	All Years	0.0	0.0			0.0	0.0	0.0	0.0	-0.1	0.6	1.2	-0.2
Adult Spawning	May through August	Monthly mean water temperatures (°F)	Trinity River at North Fork	68	All Years								0.0	0.0	-1.9	-0.9	
Juvenile Rearing and Emigration	Year-round	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	1.2	-0.2

Table AQ-T-1-9f White Sturgeon in the Upper Trinity River

	Evaluation		Location	Criteria			Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	November through May	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 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 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	1.2	-0.2

Table AQ-T-1-9g
Pacific Lamprey in the Upper Trinity River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	D relative t	to the No A	ction Alterr	native	
	Period		Description	Value	90	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Trinity River Below Lewiston Dam	50-64	All Years				0.0	0.0	-3.7	-1.3	0.0	-1.2	-1.2	-11.1	
and Egg	through	Monthly mean water temperatures (°F)	Trinity River at Douglas City	50-64	All Years				0.0	0.0	0.0	-2.1	-1.2	0.1	1.3	0.6	
Incubation	August	temperatures ( 1 )	Trinity River at North Fork	50-64	All Years				0.0	0.0	0.3	0.0	0.0	-1.9	1.3	1.9	
Ammocoete		Manadala and a samual and	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
Rearing and	Pooring and Voor round	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
Emigration		tomporatores ( 1 )	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>&</sup>lt;sup>1</sup>Water temperature ranges are evaluated by calculating the net change in the probability of water temperatures occurring within the specified range.



Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
Clear Creek







Table AQ-T-2-3a Spring-run Chinook Salmon in Clear Creek

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net (	Change in F	Probability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Altern	ative	
Life Stage	Period	impact indicator	Description	Value	Kange	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0						0.0	0.0	0.0	-0.5	0.0	-2.0
			Clear Creek below Whiskeytown Dam	64	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
Adult Immigration	April through	Monthly mean water		60	All Years	-0.5						0.0	0.0	0.0	-0.5	-1.2	-1.5
and Holding	October	temperatures (°F)	Clear Creek at Igo	64	All Years	0.0						0.0	0.0	0.0	-1.7	-0.1	-0.1
		, , , , ,		68	All Years	0.0						0.0	0.0	0.0	-0.2	0.0	0.0
				60	All Years	-2.2						0.0	0.0	0.5	-0.2	0.1	-2.6
			Mouth of Clear Creek	64	All Years	0.0						0.0	0.0	-0.4	-1.0	0.7	-1.3
				68	All Years	0.0						0.0	0.0	0.0	-0.1	-1.1	0.0
				56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0					-2.1	-5.7
			Clear Creek below Whiskeytown Dam	58	All Years	1.2	0.0	0.0	0.0	0.0	0.0					-2.2	-0.7
				60 62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	-2.0 -0.7
				56	All Years All Years	-0.3	0.0	0.0	0.0	0.0	0.0					0.0	-0.7
Adult Spawning	August	Monthly mean water		58	All Years	-2.2	0.0	0.0	0.0	0.0	0.0					3.2	-5.0
and Embryo	through March	temperatures (°F)	Clear Crek at Igo	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0					-1.2	-1.5
Incubation				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-2.8	-1.2
				56	All Years	-3.5	0.0	0.0	0.0	0.0	0.0					0.0	-0.6
			Mouth of Clear Creek	58	All Years	-1.3	0.0	0.0	0.0	0.0	0.0					0.0	0.6
			Would of Clear Cleek	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0					0.1	-2.6
				62	All Years	-1.2	0.0	0.0	0.0	0.0	0.0					2.6	-2.7
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-2.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-0.3
			Class Crask halaw Whisker town Dom	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
			Clear Creek below Whiskeytown Dam	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
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				-1.2	-1.5
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.3	-0.6
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.1	0.0
Juvenile Rearing and Emigration	August through April	Monthly mean water temperatures (°F)	Clear Creek at Igo	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
and Emigration	Арііі	temperatures ( 1 )		_													
				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
				60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0				0.1	-2.6
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				-0.2	-2.4
			Mouth of Clear Creek	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.4	-0.7
			Would of Clear Cleek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.1	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.1	0.0
	1			75	All Years	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	-0.5	0.0	-2.0
	1			63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	-0.3
			Clear Creek below Whiskeytown Dam	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
			Cieai Creek below wriiskeylown Dam	68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			75	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			60	All Years	-0.5	0.0	0.0	0.0				0.0	0.0	-0.5	-1.2	-1.5
	l			63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-2.3	-0.3	-0.6
Smolt Emigration	May through January	Monthly mean water temperatures (°F)	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.2	0.1	0.0
	January	temperatures (°F)		68 70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.2 -0.1	0.0	0.0
	1			70	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			60	All Years All Years	-2.2	0.0	0.0	0.0				0.0	0.0	-0.2	0.0	-2.6
	1			63	All Years	-2.2	0.0	0.0	0.0				0.0	1.1	2.9	-0.2	-2.6
	1			65	All Years	0.0	0.0	0.0	0.0				0.0	-0.8	4.5	-1.4	-0.7
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	-1.1	0.0
				70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-1.4	-0.1	0.0
		i l			All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0

Table AQ-T-2-3b
Fall-run Chinook Salmon in Clear Creek

1.16- 01	Evaluation		Location	Criteria	B		Net (	Change in F	Probability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alterr	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0									-2.0
			Clear Creek below Whiskeytown Dam	64	All Years	0.0	0.0	0.0									0.0
				68	All Years	0.0	0.0	0.0									0.0
Adult Immigration	September	Monthly mean water		60	All Years	-0.5	0.0	0.0									-1.5
and Holding	through	temperatures (°F)	Clear Creek at Igo	64	All Years	0.0	0.0	0.0									-0.1
, ,	December			68	All Years	0.0	0.0	0.0									0.0
			Mouth of Olega Orests	60	All Years	-2.2	0.0	0.0									-2.6
			Mouth of Clear Creek	64	All Years	0.0	0.0	0.0									-1.3
				68	All Years	0.0 -2.8	0.0	0.0	0.0	0.0	0.0						0.0 -5.7
				56 58	All Years All Years	1.2	0.0	0.0	0.0	0.0	0.0						-5.7
			Clear Creek below Whiskeytown Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-2.0
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-0.7
				56	All Years	-0.3	0.0	0.0	0.0	0.0	0.0						-1.9
Adult Spawning	October	Monthly mean water	Class Crals at las	58	All Years	-2.2	0.0	0.0	0.0	0.0	0.0						-5.0
and Embryo Incubation	through March	temperatures (°F)	Clear Crek at Igo	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0						-1.5
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-1.2
				56	All Years	-3.5	0.0	0.0	0.0	0.0	0.0						-0.6
			Mouth of Clear Creek	58	All Years	-1.3	0.0	0.0	0.0	0.0	0.0						0.6
				60 62	All Years	-2.2 -1.2	0.0	0.0	0.0	0.0	0.0						-2.6 -2.7
				60	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-2.1
				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				
			Clear Creek below Whiskeytown Dam	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				
				60	All Years	-0.5	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				
Juvenile Rearing	October	Monthly mean water	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Emigration	through May	temperatures (°F)		68 70	All Years 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				
		•		60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				63	All Years	-0.5	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				
			Mouth of Clear Creek	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				
				60	All Years				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			
			Clear Creek below Whiskeytown Dam	65	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			
				70 75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
		}		60	All Years All Years				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			
	January	Monthly mean water		65	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
molt Emigration January through June	temperatures (°F)	Clear Creek at Igo	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			
				60	All Years				0.0	0.0	0.0	0.0	0.0	0.5			
	1			63	All Years				0.0	0.0	0.0	0.0	0.0	1.1			
			Mouth of Clear Creek	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			
		1		70	All Years				0.0	0.0	0.0	0.0	0.0	0.0			

Table AQ-T-2-3c Late Fall-run Chinook Salmon in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	Probability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alteri	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years			0.0	0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					4
Adult Immigration	December	Monthly mean water	Clear Creek at Igo	60 64	All Years All Years			0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)	Clear Creek at 190	68	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					
			Mouth of Clear Creek	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					
				56	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	58	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeylown Dam	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					4
Adult Spawning	lanuar.	Manthlyman water		56	All Years				0.0	0.0	0.0	0.0					-
and Embryo	January through April	Monthly mean water temperatures (°F)	Clear Crek at Igo	58 60	All Years All Years				0.0	0.0	0.0	0.0					
Incubation	5			62	All Years				0.0	0.0	0.0	0.0					
				56	All Years				0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	58	All Years				0.0	0.0	0.0	0.0					
			Wodar or Oldar Oldar	60	All Years				0.0	0.0	0.0	0.0					4
				62	All Years				0.0	0.0	0.0	0.0					4
				60	All Years					0.0	0.0	0.0	0.0				4
				63 65	All Years All Years					0.0	0.0	0.0	0.0				-
			Clear Creek below Whiskeytown Dam	68	All Years					0.0	0.0	0.0	0.0				
				70	All Years					0.0	0.0	0.0	0.0				1
				75	All Years					0.0	0.0	0.0	0.0				
				60	All Years					0.0	0.0	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing	February	Monthly mean water	Clear Creek at Igo	65	All Years					0.0	0.0	0.0	0.0				
and Emigration	through May	temperatures (°F)	Olear Oleak at 190	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	0.0	0.0				4
				63	All Years					0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	65	All Years					0.0	0.0	0.0	0.0				
				68 70	All Years					0.0	0.0	0.0	0.0				-
				75	All Years All Years					0.0	0.0	0.0	0.0				1
				60	All Years					0.0	0.0	0.0	0.0	0.0			
				63	All Years							0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	65	All Years							0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	68	All Years							0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0			4
				75 60	All Years All Years							0.0	0.0	0.0			-
				63	All Years							0.0	0.0	0.0			
	April through	Monthly mean water		65	All Years							0.0	0.0	0.0			
Smolt Emigration	June	temperatures (°F)	Clear Creek at Igo	68	All Years							0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			
				60	All Years							0.0	0.0	0.5			
				63	All Years							0.0	0.0	1.1			
			Mouth of Clear Creek	65 68	All Years All Years							0.0	0.0	-0.8 0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			

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## Table AQ-T-2-3d Steelhead in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	Probability	of Exceeda	nce under	Alternative	A relative t	o the No A	ction Altern	ative	-
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-1.2	-1.5
			Clear Creek below Whiskeytown Dam	56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0					-2.1	-5.7
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	0.1	0.5	0.0	0.0	0.0	0.0					0.0	5.2
Adult Immigration and Holding	August through March	Monthly mean water temperatures (°F)	Clear Creek at Igo	56	All Years	-0.3	0.0	0.0	0.0	0.0	0.0					0.3	-1.9
and Holding	March	temperatures (*F)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	-0.3	-0.2	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	-0.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-0.1	0.0
				52	All Years			0.0	0.0	0.0	0.0	0.0	-0.7				
			Oleran Oracle Indiana Wildeland and David	54	All Years			0.0	0.0	0.0	0.0	0.0	0.7				
			Clear Creek below Whiskeytown Dam	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				
Adult Spawning				52	All Years			0.0	0.0	0.0	0.0	-2.0	1.4				
and Embryo	December	Monthly mean water	Clear Creek at Igo	54	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	temperatures (°F)	olodi olook di igo	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				
				52	All Years			0.0	0.0	0.0	0.0	-4.9	1.0				
			Mouth of Clear Creek	54	All Years			0.0	0.0	0.0	0.0	-1.4	1.9				
				57	All Years			0.0	0.0	0.0	0.0	0.0	0.1				
				60	All Years			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
			Clear Creek below Whiskeytown Dam	68 72	All Years All Years	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 All Years	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	-0.2	0.1	0.0
				68	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
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	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	-0.2	0.0	0.0
and Emigration		temperatures (*F)		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	-0.8	4.5	-1.4	-0.7
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.1	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	0.1	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

Table AQ-T-2-3e

### **River Lamprey in Clear Creek**

	Evaluation		Location	Criteria	_		Net 0	Change in F	robability of	of Exceeda	nce under /	Alternative	A relative t	o the No A	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years					0.0	0.0	-0.2	0.6	-0.4	1.2		
		Monthly mean water	Clear Creek at Igo	50-64	All Years					0.0	0.0	-0.9	0.4	0.1	1.7		
and Egg incubation		temperatures (°F)	Mouth of Clear Creek	50-64	All Years					0.0	-0.2	-4.5	0.1	0.4	1.0		
Ammocoete			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
Rearing and	Year-round	Monthly mean water	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

Table AQ-T-2-3f Pacific Lamprey in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	robability of	of Exceeda	nce under /	Alternative	A relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years				0.0	0.0	0.0	-0.2	0.6	-0.4	1.2	1.9	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years				0.0	0.0	0.0	-0.9	0.4	0.1	1.7	0.1	
and Egg incubation		temperatures ( F)	Mouth of Clear Creek	50-64	All Years				0.0	0.0	-0.2	-4.5	0.1	0.4	1.0	-0.7	
Ammocoete			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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

### Table AQ-T-2-3g

### Hardhead in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	Probability	of Exceeda	nce under /	Alternative	A relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	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
Adults and Other	Year-round	Monthly mean water	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	-0.2	0.1	0.0
Lifestages	Lifestages Year-round temperatures	temperatures ( F)	Mouth of Clear Creek	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	4.5	-1.4	-0.7
	April Abressels Menthly and	Marthhaman	Below Whiskeytown Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64	All Years							0.0	0.0	0.8			
	June temperat	temperatures (1)	Mouth of Clear Creek	59-64	All Years							0.0	0.0	2.8			

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







Table AQ-T-2-5a Spring-run Chinook Salmon in Clear Creek

Life Stems	Evaluation	lument luding:	Location	Criteria	Danna		Net C	Change in F	Probability	of Exceeda	nce under	Alternative	B relative t	to the No A	ction Alterr	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0						0.0	0.0	0.0	-0.5	0.0	-0.6
			Clear Creek below Whiskeytown Dam	64	All Years	0.0						0.0	0.0	0.0	0.0	0.0	0.2
				68 60	All Years All Years	0.0 -0.5						0.0	0.0	0.0	0.0 -2.5	0.0 -0.5	0.0
Adult Immigration	April through	Monthly mean water	Clear Creek at Igo	64	All Years	0.0						0.0	0.0	0.0	-0.4	0.0	0.3
and Holding	October	temperatures (°F)	, and the second	68	All Years	0.0						0.0	0.0	0.0	-0.1	0.0	0.0
				60	All Years	-2.4						0.0	0.0	-0.1	0.1	0.4	-5.7
			Mouth of Clear Creek	64	All Years	0.0						0.0	0.0	0.0	-0.9	1.5	-0.3
				68	All Years	0.0						0.0	0.0	0.0	-2.3	-1.1	0.0
				56	All Years	-3.3	0.0	0.0	0.0	0.0	0.0					-0.5	-6.8
			Clear Creek below Whiskeytown Dam	58 60	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0					-1.5 0.0	-0.5 -0.6
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				56	All Years	0.2	0.0	0.0	0.0	0.0	0.0					2.3	-1.3
Adult Spawning and Embryo	August	Monthly mean water	Clear Crek at Igo	58	All Years	-3.2	0.0	0.0	0.0	0.0	0.0					0.9	-4.4
Incubation	through March	temperatures (°F)	olear orek at igo	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0					-0.5	0.2
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-2.6 0.0	-0.2 -0.9
				56 58	All Years All Years	-3.2 -0.8	0.0	0.0	0.0	0.0	0.0					0.0	1.2
			Mouth of Clear Creek	60	All Years	-2.4	0.0	0.0	0.0	0.0	0.0					0.4	-5.7
				62	All Years	-1.2	0.0	0.0	0.0	0.0	0.0					1.1	-1.7
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-0.6
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.2
			Clear Creek below Whiskeytown Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
			Clear Creek below Whiskeytown Dam	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
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				-0.5	0.2
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.2	0.1
Juvenile Rearing	August through	Monthly mean water	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.1	0.1
and Emigration	April	temperatures (°F)	Olcar Orcck at 190	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
				60	All Years	-2.4	0.0	0.0	0.0	0.0	0.0	0.0				0.4	-5.7
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				-0.3	-1.0
			Mouth of Clear Creek	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				2.2	0.0
			Would of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.1	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
				60	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.5	0.0	-0.6
				63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.2
			Clear Creek below Whiskeytown Dam	65 68	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
				75	All Years	0.0	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	-2.5	-0.5	0.2
				63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-1.6	-0.2	0.1
Smolt Emigration	May through	Monthly mean water temperatures (°F)	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	0.1	0.1
	January	temperatures (°F)		68 70	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1 -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
	1			60	All Years	-2.4	0.0	0.0	0.0				0.0	-0.1	0.1	0.4	-5.7
				63	All Years	-0.5	0.0	0.0	0.0				0.0	-0.2	2.7	-0.3	-1.0
			Mouth of Clear Creek	65	All Years	0.0	0.0	0.0	0.0				0.0	-0.7	5.6	2.2	0.0
				68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-2.3	-1.1	0.0
	1			70 75	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
		ı	l	70	All 18d15	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0

Table AQ-T-2-5b
Fall-run Chinook Salmon in Clear Creek

Description   Period   Perio	Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net (	Change in F	Probability	of Exceeda	nce under	Alternative	B relative	to the No A	ction Alteri	native	
Clear Creek bloow Whitekeyoon Dame   Clear Creek bloow Whitekeyoon Dame   Clear Creek bloow Whitekeyoon Dame   Clear Creek at log   C	Life Stage	Period	impact indicator	Description	Value	Kange	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mouth frequency of Process   Proce																		-0.6
Apt many purpose of processors of the processors				Clear Creek below Whiskeytown Dam														0.2
Mail Propertions of Minor Propertions of Minor Propertions (F)																		0.0
Secretary   December	Adult Immigration		Monthly mean water	Clear Creek at Igo														0.2
Mouth of Clear Creek below Whiskeyoun Dame   Clear Creek below W	and Holding			Oldar Oldar at 190														0.0
Color   Crest   Color   Crest   Cres																		-5.7
Color   Crest   Color   Crest   Cres				Mouth of Clear Creek		All Years	0.0	0.0	0.0									-0.3
Adult Spanning and Enroy Incote Incot																		0.0
Adult Solution (Incidence of the Proper Nation   Proper Nation					56	All Years	-3.3	0.0	0.0	0.0	0.0	0.0						-6.8
Adulf Spanning Location (Processing From the Processing From the P				Clear Creek below Whiskeytown Dam	58	All Years		0.0	0.0	0.0								-0.5
Adult Spending Prough March Pro				Clear Creek below Whiskeylown Dam														-0.6
Adul Symming of Colors (Proogh March Proogh																		0.0
County   February	Adult Spawning	0.1.1	Mandalana													_		-1.3 -4.4
Mouth of Clear Creek at Ign   Mout	and Embryo			Clear Crek at Igo														0.2
See   Al Years   See   See   Al Years   See   See   Al Years   See	Incubation	anough maion	temperatures ( 1 )															-0.2
Mouth of Clear Creek   See																		-0.9
Second Part				Mouth of Olega Oracle														1.2
Manufacture   Cata				Mouth of Clear Creek	-		-2.4	0.0	0.0	0.0	0.0	0.0						-5.7
Authority   Clear Creek below Whiskeytown Dame   Clear Creek below Whiskeytown Dame   Clear Creek at Igo   Clear					62	All Years	-1.2	0.0	0.0	0.0	0.0	0.0						-1.7
Mouth of Clear Creek below Whiselytown Dame   65   All Years   0.0   0																		
Monthly mean ustar temperatures (**)   Figure 1.5   Figure 1.5   Figure 1.5   Figure 1.5																		
Authors   Auth				Clear Creek below Whiskeytown Dam														
Juvenile Rearing and Enigration of Totolor frough May and Enigration of Enigration o				•												_		
Juvanile Rearing and Emigration   Ciclober through May   Monthly mean water temperatures (°F)																		
Morthly mean water from the morth like with																		
Smolt Emigration and Emigration an																		
And Emigration   Final Prough May   Final Prough	Juvenile Rearing	October	Monthly mean water	Olean One de et las			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Smolt Emigration   Figure				Clear Creek at 1go	68	All Years	0.0	0.0	0.0	0.0		0.0	0.0	0.0				
Second Emigration   Seco					-													
Smolt Emigration   Smolt Emigr																		
Smolt Emigration   Smolt Emigr																		
Mouth of Clear Creek   Residue   R							2.2											
Semilar Emigration   Semilar				Mouth of Clear Creek														
Second Femiliars																		
Smolt Emigration   Smolt Emigr																		
Smolt Emigration   Smolt Emigration   Figure 1   Smolt Emigration															0.0			
Smolt Emigration   Family Through June   F																		
Sample Emigration   Family Monthly mean water temperatures (*F)   Family Monthly Month				Clear Creek helow Whickoutows Daw						0.0	0.0		0.0	0.0	0.0			
Smolt Emigration   Figure 1				Glear Greek below Whiskeylown Dam														
Smolt Emigration Prough June P																		
Smolt Emigration Phrough June P																		
Smolt Emigration   Frough June   Monthly mean water temperatures (°F)   All Years   0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0																		
Smolt Emigration through June t		lonuon:	Monthly mann years															
To All Years   0.0 0.0 0.0 0.0 0.0 0.0 0.0   0	Smolt Emigration			Clear Creek at Igo														
75 All Years   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   -0.1																		
Mouth of Clear Creek  63 All Years  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  -0.7  68 All Years  0.0 0.0 0.0 0.0 0.0 0.0  0.0 0.0 0.0 0														0.0	-0.1			
Mouth of Clear Creek 68 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				Mouth of Clear Creek														
1 70   All Years   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		1																

Table AQ-T-2-5c Late Fall-run Chinook Salmon in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	Probability	of Exceeda	nce under	Alternative	B relative	to the No A	ction Alter	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years			0.0	0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					
Adult Immigration	December	Monthly mean water	Clear Creek at Igo	60 64	All Years All Years			0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)	Clear Cleek at 190	68	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					l -
			Mouth of Clear Creek	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					
				56	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	58	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Willskeylown Dain	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					
Adult Spawning	lanuar.	Manthlyman		56 58	All Years All Years				0.0	0.0	0.0	0.0					1
and Embryo	January through April	Monthly mean water temperatures (°F)	Clear Crek at Igo	60	All Years All Years				0.0	0.0	0.0	0.0		_	_		-
Incubation	9, 42.11			62	All Years				0.0	0.0	0.0	0.0					
	1			56	All Years				0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	58	All Years				0.0	0.0	0.0	0.0					
			Would of Clear Creek	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					_
				60	All Years					0.0	0.0	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
			Clear Creek below Whiskeytown Dam	65	All Years All Years					0.0	0.0	0.0	0.0				_
				68 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	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing	February	Monthly mean water	Clear Creek at Igo	65	All Years					0.0	0.0	0.0	0.0				
and Emigration	through May	temperatures (°F)	Clear Creek at 1go	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	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	65	All Years					0.0	0.0	0.0	0.0				
				68	All Years					0.0	0.0	0.0	0.0				
				70	All Years					0.0	0.0	0.0	0.0				
				75 60	All Years All Years					0.0	0.0	0.0	0.0	0.0			_
				63	All Years							0.0	0.0	0.0			1
				65	All Years							0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	68	All Years							0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			
				60	All Years							0.0	0.0	0.0			
	A mod the man	Manufatananan		63	All Years							0.0	0.0	0.0			
Smolt Emigration	April through June	Monthly mean water temperatures (°F)	Clear Creek at Igo	65 68	All Years All Years							0.0	0.0	0.0			
	Julio	toperatures ( 1 )		70	All Years All Years							0.0	0.0	0.0			
	1			75	All Years							0.0	0.0	0.0			
	1			60	All Years							0.0	0.0	-0.1			
				63	All Years							0.0	0.0	-0.2			
			Mouth of Clear Creek	65	All Years							0.0	0.0	-0.7			
	1		Would of Oldar Order	68	All Years							0.0	0.0	0.0			
	I			70 75	All Years All Years							0.0	0.0	0.0			

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## Table AQ-T-2-5d Steelhead in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	Probability	of Exceeda	nce under	Alternative	B relative t	o the No A	ction Alterr	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	0.0	0.3	0.0	0.0	0.0	0.0					-1.7	-1.0
			Clear Creek below Whiskeytown Dam	56	All Years	-3.3	0.0	0.0	0.0	0.0	0.0					-0.5	-6.8
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	1.4	0.7	0.0	0.0	0.0	0.0					0.0	0.7
Adult Immigration			Clear Creek at Igo	56	All Years	0.2	0.0	0.0	0.0	0.0	0.0					2.3	-1.3
and Holding	March	temperatures (°F)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	-3.4	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	-0.9
				70	All Years	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	-0.4				
				54	All Years			0.0	0.0	0.0	0.0	0.0	1.6				
			Clear Creek below Whiskeytown Dam	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				
				52	All Years			0.0	0.0	0.0	0.0	-2.3	3.5				
Adult Spawning and Embryo	December	Monthly mean water	Clear Creek at Igo	54	All Years			0.0	0.0	0.0	0.0	0.0	-1.2				
Incubation	through May	temperatures (°F)	Clear Creek at 1go	57	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
modbattom				60	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
				52	All Years			0.0	0.0	0.0	0.0	-2.6	1.0				
			Mouth of Clear Creek	54	All Years			0.0	0.0	0.0	0.0	-1.5	3.3				
			Model of Older Order	57	All Years			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				
				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
			Clear Creek below Whiskeytown 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
				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	-0.1	0.1	0.1
Juvenile Rearing	Year-round	Monthly mean water	Clear Creek at Igo	68	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
and Emigration	rear-round	temperatures (°F)	Ü	72	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
				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	-0.7	5.6	2.2	0.0
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-1.1	0.0
			modal of clock clock	72	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
				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

Table AQ-T-2-5e

### **River Lamprey in Clear Creek**

	Evaluation		Location	Criteria	_		Net C	Change in F	robability of	of Exceeda	nce under /	Alternative	B relative t	o the No A	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years					0.0	0.0	-1.3	4.1	2.0	3.6		
		Monthly mean water	Clear Creek at Igo	50-64	All Years					0.0	0.0	-0.9	0.4	0.0	0.4		
and Egg incubation		temperatures (°F)	Mouth of Clear Creek	50-64	All Years					0.0	-0.2	-1.3	0.0	0.0	0.9		
Ammocoete			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
Rearing and	Year-round	Monthly mean water	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

Table AQ-T-2-5f
Pacific Lamprey in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	robability of	of Exceeda	nce under /	Alternative	B relative to	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years				0.0	0.0	0.0	-1.3	4.1	2.0	3.6	1.7	
		Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years				0.0	0.0	0.0	-0.9	0.4	0.0	0.4	0.0	
and Egg incubation	nd Egg Incubation through August	temperatures ( F)	Mouth of Clear Creek	50-64	All Years				0.0	0.0	-0.2	-1.3	0.0	0.0	0.9	-1.5	
Ammocoete			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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

# Table AQ-T-2-5g

### Hardhead in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	Probability	of Exceeda	nce under /	Alternative	B relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	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
Adults and Other	Year-round	Monthly mean water	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	-0.1	0.1	0.1
Lifestages	ts and other ifestages Year-round temperatures (°F	temperatures ( F)	Mouth of Clear Creek	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	5.6	2.2	0.0
	, , ,	Manthleananna	Below Whiskeytown Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	Adult Spawning April through June	Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64	All Years							0.0	0.0	-0.5			
	oune	temperatures (1)	Mouth of Clear Creek	59-64	All Years							0.0	0.0	2.4			

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







Table AQ-T-2-7a Spring-run Chinook Salmon in Clear Creek

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range		Net 0	Change in F	Probability	of Exceeda	nce under	Alternative	C relative	to the No A	ction Altern	ative	
Life Stage	Period	impact indicator	Description	Value	Kange	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.1						0.0	0.0	0.0	-0.5	0.0	-2.0
			Clear Creek below Whiskeytown Dam	64	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
Adult Immigration	April through	Monthly mean water	0. 0	60	All Years	-0.1						0.0	0.0	0.0	-2.1	-2.3	-0.7
and Holding	October	temperatures (°F)	Clear Creek at Igo	64	All Years	0.0						0.0	0.0	0.0	-0.3	-0.1	-0.1
		, , , , ,		68	All Years	0.0						0.0	0.0	0.0	-0.1	0.0	0.0
				60	All Years	-2.2						0.0	0.0	1.6	0.0	0.3	-6.1
			Mouth of Clear Creek	64	All Years	0.0						0.0	0.0	-1.4	0.0	0.7	-1.3
				68	All Years	0.0						0.0	0.0	0.0	-1.2	-1.2	0.0
				56	All Years	-4.8	0.0	0.0	0.0	0.0	0.0					-2.4	-6.2
			Clear Creek below Whiskeytown Dam	58	All Years	0.9	0.0	0.0	0.0	0.0	0.0					-2.2	-0.6
				60 62	All Years	0.1	0.0	0.0	0.0	0.0	0.0					0.0	-2.0 -0.7
				56	All Years All Years	-2.6	0.0	0.0	0.0	0.0	0.0					-1.4	-0.7
Adult Spawning	August	Monthly mean water		58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0					0.5	-5.1
and Embryo	through March	temperatures (°F)	Clear Crek at Igo	60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0					-2.3	-0.7
Incubation				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-2.8	-1.2
				56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0					0.0	-3.6
			Mouth of Clear Creek	58	All Years	-0.3	0.0	0.0	0.0	0.0	0.0					0.0	-1.4
			Would of Clear Cleek	60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0					0.3	-6.1
				62	All Years	-1.0	0.0	0.0	0.0	0.0	0.0					2.0	-1.8
				60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-2.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-0.3
			Olean Oreal halou Wikishadaaa Baar	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
			Clear Creek below Whiskeytown Dam	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
				60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0				-2.3	-0.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.3	-0.6
						0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Juvenile Rearing	August through		Clear Creek at Igo	65	All Years											0.1	
and Emigration	April	temperatures (°F)		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
				60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0				0.3	-6.1
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-2.9
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.4	-0.7
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.2	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-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
				60	All Years	0.1	0.0	0.0	0.0		3.0	3.0	0.0	0.0	-0.5	0.0	-2.0
	1			63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	-0.3
			Olean Orealist along the Company	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1		Clear Creek below Whiskeytown Dam	68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
	1			70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
				75	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	0.0	-2.1	-2.3	-0.7
				63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-1.1	-0.3	-0.6
Smolt Emigration	May through	Monthly mean water	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	0.1	0.0
	January	temperatures (°F)		68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	0.0	0.0
	1			70	All Years	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
				60	All Years	-2.2	0.0	0.0	0.0				0.0	1.6	0.0	0.3	-6.1
				63	All Years	-0.5 0.0	0.0	0.0	0.0				0.0	-0.2 -0.9	2.2 3.8	0.0 -0.4	-2.9 -0.7
			Mouth of Clear Creek	65 68	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	-1.2	-0.4	0.0
		1	İ	UÕ													
				70	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	-0.1	0.0

Table AQ-T-2-7b
Fall-run Chinook Salmon in Clear Creek

1.16- 04	Evaluation		Location	Criteria	B		Net (	Change in F	Probability	of Exceeda	nce under /	Alternative	C relative	to the No A	ction Alter	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.1	0.0	0.0									-2.0
			Clear Creek below Whiskeytown Dam	64	All Years	0.0	0.0	0.0									0.0
				68	All Years	0.0	0.0	0.0									0.0
Adult Immigration	September	Monthly mean water	Class Creek et las	60 64	All Years	-0.1 0.0	0.0	0.0									-0.7 -0.1
and Holding	through December	temperatures (°F)	Clear Creek at Igo	68	All Years All Years	0.0	0.0	0.0									0.0
	December	-		60	All Years	-2.2	0.0	0.0									-6.1
			Mouth of Clear Creek	64	All Years	0.0	0.0	0.0									-1.3
			Would of Clear Creek	68	All Years	0.0	0.0	0.0									0.0
				56	All Years	-4.8	0.0	0.0	0.0	0.0	0.0						-6.2
				58	All Years	0.9	0.0	0.0	0.0	0.0	0.0						-0.2
			Clear Creek below Whiskeytown Dam	60	All Years	0.1	0.0	0.0	0.0	0.0	0.0						-2.0
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-0.7
				56	All Years	-2.6	0.0	0.0	0.0	0.0	0.0						-2.6
Adult Spawning and Embryo	October	Monthly mean water	Clear Crek at Igo	58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0						-5.1
Incubation	through March	temperatures (°F)	olear orek at igo	60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0						-0.7
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-1.2
				56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0						-3.6
			Mouth of Clear Creek	58 60	All Years All Years	-0.3 -2.2	0.0	0.0	0.0	0.0	0.0						-1.4 -6.1
				62	All Years	-1.0	0.0	0.0	0.0	0.0	0.0						-1.8
				60	All Years	0.1	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				
			Olean Oracle halou Whisheston Barr	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Clear Creek below Whiskeytown Dam	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				
				60	All Years	-0.1	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				
Juvenile Rearing and Emigration	October through May	Monthly mean water temperatures (°F)	Clear Creek at Igo	65 68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Emigration	ti ilougii way	temperatures ( F)		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				
				60	All Years	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Marsh of Class Creek	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	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				
				60	All Years				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			
			Clear Creek below Whiskeytown Dam	65 68	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				70	All Years 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			
		•		60	All Years				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			
Smolt Emigration	January	Monthly mean water	Clear Creek at Igo	65	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
Omon Emigration	through June	temperatures (°F)	Cicai Cieek at Igu	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			
				60	All Years				0.0	0.0	0.0	0.0	0.0	1.6			
				63 65	All Years All Years				0.0	0.0	0.0	0.0	0.0	-0.2 -0.9			
			Mouth of Clear Creek	68	All Years 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			

Table AQ-T-2-7c Late Fall-run Chinook Salmon in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	Probability	of Exceeda	nce under	Alternative	C relative	to the No A	ction Alteri	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years			0.0	0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					4
Adult Immigration	December	Monthly mean water	Olassa Ossaila at Isra	60	All Years			0.0	0.0	0.0	0.0	0.0					$\leftarrow$
and Holding	through April	temperatures (°F)	Clear Creek at Igo	64 68	All Years 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				_	
			Mouth of Clear Creek	64	All Years			0.0	0.0	0.0	0.0	0.0					
			Would of Clear Creek	68	All Years			0.0	0.0	0.0	0.0	0.0					
				56	All Years			0.0	0.0	0.0	0.0	0.0					
				58	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					
A dula Consumina				56	All Years				0.0	0.0	0.0	0.0					
Adult Spawning and Embryo	January	Monthly mean water	Clear Crek at Igo	58	All Years				0.0	0.0	0.0	0.0					
Incubation	through April	temperatures (°F)	g-	60	All Years				0.0	0.0	0.0	0.0					_
				62	All Years				0.0	0.0	0.0	0.0					
				56 58	All Years All Years				0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					
				60	All Years					0.0	0.0	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
			Clear Creek below Whiskeytown Dam	65	All Years					0.0	0.0	0.0	0.0				
			Clear Creek below Willskeylown Dain	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	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				_
Juvenile Rearing and Emigration	February	Monthly mean water	Clear Creek at Igo	65	All Years					0.0	0.0	0.0	0.0				
and Emigration	through May	temperatures (°F)		68 70	All Years 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	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
				65	All Years					0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	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	0.0			
				63	All Years							0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	65	All Years							0.0	0.0	0.0			
				68	All Years							0.0	0.0	0.0			
				70 75	All Years All Years							0.0	0.0	0.0			
				60	All Years All Years							0.0	0.0	0.0			
				63	All Years							0.0	0.0	0.0			
O!!	April through	Monthly mean water	Olera Oreal et las	65	All Years							0.0	0.0	0.0			
Smolt Emigration	June	temperatures (°F)	Clear Creek at Igo	68	All Years							0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			
				60	All Years							0.0	0.0	1.6			
				63	All Years							0.0	0.0	-0.2			$\leftarrow$
			Mouth of Clear Creek	65 68	All Years All Years							0.0	0.0	-0.9 0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			

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Table AQ-T-2-7d Steelhead in Clear Creek

	Evaluation		Location	Criteria	_		Net C	hange in F	Probability	of Exceeda	nce under	Alternative	C relative t	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	-3.2	0.0	0.0	0.0	0.0	0.0					-6.6	-2.0
			Clear Creek below Whiskeytown Dam	56	All Years	-4.8	0.0	0.0	0.0	0.0	0.0					-2.4	-6.2
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	-2.3	0.4	0.0	0.0	0.0	0.0					0.0	3.5
Adult Immigration			Clear Creek at Igo	56	All Years	-2.6	0.0	0.0	0.0	0.0	0.0					-1.4	-2.6
and Holding	March	temperatures (°F)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	-1.5	-0.6	0.0	0.0	0.0	0.0					0.0	0.0
			Mouth of Clear Creek	56	All Years	-2.8	0.0	0.0	0.0	0.0	0.0					0.0	-3.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-0.1	0.0
				52	All Years			0.0	0.0	0.0	0.0	0.0	-1.4				
				54	All Years			0.0	0.0	0.0	0.0	0.0	1.6				
			Clear Creek below Whiskeytown Dam	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				
				52	All Years			0.0	0.0	0.0	0.0	-1.8	-0.2				
Adult Spawning and Embryo	December	Monthly mean water	Clear Creek at Igo	54	All Years			0.0	0.0	0.0	0.0	0.0	-0.4				
Incubation	through May	temperatures (°F)	Clear Creek at 190	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				
				52	All Years			0.0	0.0	0.0	0.0	-5.0	1.0				
			Mouth of Clear Creek	54	All Years			0.0	0.0	0.0	0.0	-1.4	-0.6				
				57	All Years			0.0	0.0	0.0	0.0	0.0	0.1				<u> </u>
				60	All Years			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
			Clear Creek below Whiskeytown 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
				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	-0.1	0.0	0.0
				65 68	All Years 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
Juvenile Rearing	Year-round	Monthly mean water	Clear Creek at Igo			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
and Emigration		temperatures (°F)		72 75	All Years All Years	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	-0.9	3.8	-0.4	-0.7
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-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	0.1	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

Table AQ-T-2-7e

## **River Lamprey in Clear Creek**

	Evaluation		Location	Criteria	_		Net 0	Change in F	robability	of Exceeda	nce under	Alternative	C relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years					0.0	0.0	-1.5	0.6	1.4	0.1		
Adult Spawning	February	Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years					0.0	0.0	-1.7	0.4	0.0	0.3		
and Egg incubation		temperatures (*F)	Mouth of Clear Creek	50-64	All Years					0.0	-0.2	-5.4	0.1	1.4	0.0		
Ammocoete	Ammocoete		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
Rearing and	Year-round	Monthly mean water	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

Table AQ-T-2-7f
Pacific Lamprey in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	robability of	of Exceeda	nce under /	Alternative	C relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years				0.0	0.0	0.0	-1.5	0.6	1.4	0.1	3.1	
Adult Spawning and Egg Incubation	January	Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years				0.0	0.0	0.0	-1.7	0.4	0.0	0.3	0.1	
and Egg incubation	iniougn August	temperatures ( F)	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	Ammocoete .		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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.0	0.0
Emigration		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	0.1	0.0	0.0

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

# Table AQ-T-2-7g

### Hardhead in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	robability of	of Exceeda	nce under /	Alternative	C relative t	o the No Ac	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	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
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.1	0.0
Lifestages		temperatures ( F)	Mouth of Clear Creek	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	3.8	-0.4	-0.7
	A 21 th h	Marthhaman	Below Whiskeytown Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64	All Years							0.0	0.0	-1.6			
	oune	temperatures (1)	Mouth of Clear Creek	59-64	All Years							0.0	0.0	3.9			

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







Table AQ-T-2-9a Spring-run Chinook Salmon in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in I	Probability	of Exceeda	nce under	Alternative	D relative t	to the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0						0.0	0.0	0.0	-0.1	0.0	-0.6
			Clear Creek below Whiskeytown Dam	64	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
Adult Immigration	April through	Monthly mean water		60	All Years	-0.3 0.0						0.0	0.0	0.0	-2.5 0.1	-1.6 -0.5	-0.1 -0.1
and Holding	October	temperatures (°F)	Clear Creek at Igo	64 68	All Years	0.0						0.0	0.0	0.0	-0.1	0.0	0.0
_				60	All Years All Years	0.0						0.0	0.0	-0.7	-0.1	-0.5	-2.6
			Mouth of Clear Creek	64	All Years	0.0						0.0	0.0	-1.2	-0.2	2.4	-1.3
			Would of Clear Creek	68	All Years	0.0						0.0	0.0	0.0	-1.8	-1.0	0.0
				56	All Years	-2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.8	-3.7
				58	All Years	0.9	0.0	0.0	0.0	0.0	0.0					-1.0	0.6
			Clear Creek below Whiskeytown Dam	60	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	-0.6
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	-0.7
Adult Spawning				56	All Years	-0.2	0.0	0.0	0.0	0.0	0.0					-4.6	-0.9
and Embryo	August	Monthly mean water	Clear Crek at Igo	58	All Years	-0.8	0.0	0.0	0.0	0.0	0.0					0.4	-2.7
Incubation	through March	temperatures (°F)	-	60	All Years	-0.3 0.0	0.0	0.0	0.0	0.0	0.0					-1.6 -2.8	-0.1 -1.2
				62 56	All Years All Years	-1.5	0.0	0.0	0.0	0.0	0.0					0.0	2.3
				58	All Years	-0.7	0.0	0.0	0.0	0.0	0.0					0.0	0.0
			Mouth of Clear Creek	60	All Years	0.1	0.0	0.0	0.0	0.0	0.0					-0.5	-2.6
				62	All Years	-1.0	0.0	0.0	0.0	0.0	0.0					2.0	-0.6
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-0.6
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-0.3
			Clear Creek below Whiskeytown Dam	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
			Clear Creek below Whiskeylown Dam	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
				60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0				-1.6	-0.1
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-0.6	-0.6
Juvenile Rearing	August through	Monthly mean water	Clear Creek at Igo	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
and Emigration	April	temperatures (°F)	Clear Creek at 190	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
				60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0				-0.5	-2.6
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0				-4.3	-1.1
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.2	-0.7
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-1.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				-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
				60	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	0.0	-0.6
				63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	-0.3
			Clear Creek below Whiskeytown Dam	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
			- La La La La La La La La La La La La La	68	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
				70 75	All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0
				75 60	All Years All Years	0.0 -0.3	0.0	0.0	0.0				0.0	0.0	0.0 -2.5	0.0 -1.6	0.0 -0.1
				63	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.6	-0.6	-0.1
Constant	May through	Monthly mean water	Class Carely at Lan	65	All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.1	0.0	0.0
Smolt Emigration	January	temperatures (°F)	Clear Creek at Igo	68	All Years	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	-0.1	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
				60	All Years	0.1	0.0	0.0	0.0				0.0	-0.7	-0.2	-0.5	-2.6
				63 65	All Years All Years	-0.5 0.0	0.0	0.0	0.0				0.0	0.9 -0.8	1.7 -0.9	-4.3 0.2	-1.1 -0.7
			Mouth of Clear Creek	65 68	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	-0.9 -1.8	-1.0	0.0
				70	All Years All Years	0.0	0.0	0.0	0.0				0.0	0.0	0.0	-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

Table AQ-T-2-9b
Fall-run Chinook Salmon in Clear Creek

Life Stage	Evaluation	Impact Indicates	Location	Criteria	Panga		Net	Change in F	Probability	of Exceeda	nce under	Alternative	D relative	to the No A	ction Altern	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0									-0.6
			Clear Creek below Whiskeytown Dam	64	All Years	0.0	0.0	0.0									0.0
				68	All Years	0.0	0.0	0.0									0.0
Adult Immigration	September	Monthly mean water		60	All Years	-0.3	0.0	0.0									-0.1
and Holding	through	temperatures (°F)	Clear Creek at Igo	64	All Years	0.0	0.0	0.0									-0.1
	December	, ,		68	All Years	0.0	0.0	0.0									0.0
				60	All Years	0.1	0.0	0.0									-2.6
			Mouth of Clear Creek	64	All Years	0.0	0.0	0.0									-1.3
				68	All Years	0.0	0.0	0.0									0.0
				56	All Years	-2.1 0.9	0.0	0.0	0.0	0.0	0.0						-3.7 0.6
			Clear Creek below Whiskeytown Dam	58 60	All Years All Years	0.9	0.0	0.0	0.0	0.0	0.0						-0.6
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-0.8
				56	All Years	-0.2	0.0	0.0	0.0	0.0	0.0						-0.9
Adult Spawning	October	Monthly mean water		58	All Years	-0.8	0.0	0.0	0.0	0.0	0.0						-2.7
and Embryo Incubation	through March		Clear Crek at Igo	60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0						-0.1
incubation				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0						-1.2
				56	All Years	-1.5	0.0	0.0	0.0	0.0	0.0						2.3
			Mouth of Clear Creek	58	All Years	-0.7	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						-2.6
				62	All Years	-1.0	0.0	0.0	0.0	0.0	0.0						-0.6
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				63	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Clear Creek below Whiskeytown Dam	65 68	All Years 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				
				60	All Years	-0.3	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				
Juvenile Rearing	October	Monthly mean water	Olara Orașila at Iara	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Emigration	through May	temperatures (°F)	Clear Creek at Igo	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				
				60	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				63	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	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	0.0			
				60	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				63 65	All Years All Years				0.0	0.0	0.0	0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	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			
				60	All Years				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			
Smalt Emigration	January	Monthly mean water	Cloor Crook at Igo	65	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
Smolt Emigration	through June	temperatures (°F)	Clear Creek at Igo	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			
				60	All Years				0.0	0.0	0.0	0.0	0.0	-0.7			
				63	All Years				0.0	0.0	0.0	0.0	0.0	0.9			
			Mouth of Clear Creek	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			

Table AQ-T-2-9c Late Fall-run Chinook Salmon in Clear Creek

	Evaluation	lance and the disease	Location	Criteria	B		Net 0	Change in F	Probability	of Exceeda	nce under	Alternative	D relative	to the No A	ction Altern	native	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years			0.0	0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	64 68	All Years			0.0	0.0	0.0	0.0	0.0					
				60	All Years All Years			0.0	0.0	0.0	0.0	0.0					
Adult Immigration	December	Monthly mean water	Clear Creek at Igo	64	All Years			0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)	3 to 10 to 3	68	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					
			Mouth of Clear Creek	64	All Years			0.0	0.0	0.0	0.0	0.0					
				68	All Years			0.0	0.0	0.0	0.0	0.0					
				56	All Years				0.0	0.0	0.0	0.0					
			Clear Creek below Whiskeytown Dam	58	All Years				0.0	0.0	0.0	0.0					
				60 62	All Years All Years				0.0	0.0	0.0	0.0					
		ŀ		56	All Years				0.0	0.0	0.0	0.0					
Adult Spawning and Embryo	January	Monthly mean water	Class Cook at Inc	58	All Years				0.0	0.0	0.0	0.0					
Incubation	through April	temperatures (°F)	Clear Crek at Igo	60	All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					
				56	All Years				0.0	0.0	0.0	0.0					
			Mouth of Clear Creek	58 60	All Years All Years				0.0	0.0	0.0	0.0					
				62	All Years				0.0	0.0	0.0	0.0					
				60	All Years					0.0	0.0	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
			Clear Creek below Whiskeytown Dam	65	All Years					0.0	0.0	0.0	0.0				
			Clear Creek below Willskeytown Daili	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 All Years					0.0	0.0	0.0	0.0				
Juvenile Rearing	Echruon,	Monthly mean water		65	All Years					0.0	0.0	0.0	0.0				
and Emigration	February through May	temperatures (°F)	Clear Creek at Igo	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	0.0	0.0				
				63	All Years					0.0	0.0	0.0	0.0				
			Mouth of Clear Creek	65	All Years					0.0	0.0	0.0	0.0				
				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 All Years					0.0	0.0	0.0	0.0	0.0			
				60 63	All Years							0.0	0.0	0.0			
				65	All Years							0.0	0.0	0.0			
			Clear Creek below Whiskeytown Dam	68	All Years							0.0	0.0	0.0			
				70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			
				60	All Years							0.0	0.0	0.0			
	April through	Monthly mean water		63 65	All Years All Years							0.0	0.0	0.0			
molt Emigration	June	temperatures (°F)	Clear Creek at Igo	68	All Years							0.0	0.0	0.0			
		' '		70	All Years							0.0	0.0	0.0			
				75	All Years							0.0	0.0	0.0			
	1	[		60	All Years							0.0	0.0	-0.7			
	1			63	All Years							0.0	0.0	0.9			
	1		Mouth of Clear Creek	65 68	All Years All Years							0.0	0.0	-0.8 0.0			
	1			70	All Years All Years							0.0	0.0	0.0			
	1			75	All Years							0.0	0.0	0.0			

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# Table AQ-T-2-9d Steelhead in Clear Creek

	Evaluation		Location	Criteria	_		Net 0	Change in F	Probability	of Exceeda	nce under	Alternative	D relative t	o the No Ad	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	3.3	-1.1	0.0	0.0	0.0	0.0					-3.7	-3.4
			Clear Creek below Whiskeytown Dam	56	All Years	-2.1	0.0	0.0	0.0	0.0	0.0					-1.8	-3.7
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	2.8	-1.3	0.0	0.0	0.0	0.0					0.0	0.5
Adult Immigration			Clear Creek at Igo	56	All Years	-0.2	0.0	0.0	0.0	0.0	0.0					-4.6	-0.9
and Holding	March	temperatures (°F)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	0.7	2.4	0.0	0.0	0.0	0.0					0.0	0.0
			Mouth of Clear Creek	56	All Years	-1.5	0.0	0.0	0.0	0.0	0.0					0.0	2.3
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-0.1	0.0
				52	All Years			0.0	0.0	0.0	0.0	0.0	1.7				
				54	All Years			0.0	0.0	0.0	0.0	0.0	0.5				
			Clear Creek below Whiskeytown Dam	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				
				52	All Years			0.0	0.0	0.0	0.0	-2.3	2.6				
Adult Spawning and Embryo	December	Monthly mean water	Clear Creek at Igo	54	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	temperatures (°F)	Clear Creek at 190	57	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
inoubation				60	All Years			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	1.0				
			Mouth of Clear Creek	54	All Years			0.0	0.0	0.0	0.0	-1.3	1.9				
			mount of cloud crook	57	All Years			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				
				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
			Clear Creek below Whiskeytown 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
				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	-0.1	0.0	0.0
Juvenile Rearing	Year-round	Monthly mean water	Clear Creek at Igo	68	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
and Emigration	. cai round	temperatures (°F)		72	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
				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	-0.8	-0.9	0.2	-0.7
			Mouth of Clear Creek	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-1.0	0.0
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.2	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

Table AQ-T-2-9e

### **River Lamprey in Clear Creek**

	Evaluation		Location	Criteria	_		Net 0	Change in F	robability	of Exceeda	nce under	Alternative	D relative t	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years					0.0	0.0	0.3	0.7	1.2	2.4		
Adult Spawning	February	Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years					0.0	0.0	1.6	0.4	0.1	-0.1		
and Egg incubation		temperatures (*F)	Mouth of Clear Creek	50-64	All Years					0.0	-0.2	-1.7	0.1	1.2	2.4		
Ammocoete	Ammocoete		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
Rearing and	Year-round	Monthly mean water	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	-0.1	0.0	0.0
Emigration		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	0.1	-0.2	0.0

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

Table AQ-T-2-9f
Pacific Lamprey in Clear Creek

	Evaluation		Location	Criteria	_		Net C	Change in F	robability of	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	50-64	All Years				0.0	0.0	0.0	0.3	0.7	1.2	2.4	2.7	
Adult Spawning and Egg Incubation	January	Monthly mean water temperatures (°F)	Clear Creek at Igo	50-64	All Years				0.0	0.0	0.0	1.6	0.4	0.1	-0.1	0.5	
and Egg incubation	tillough August	temperatures ( F)	Mouth of Clear Creek	50-64	All Years				0.0	0.0	-0.2	-1.7	0.1	1.2	2.4	-2.4	
Ammocoete			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
Rearing and	Rearing and Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.0	0.0
Emigration		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	0.1	-0.2	0.0

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

## Table AQ-T-2-9g

### Hardhead in Clear Creek

	Evaluation		Location	Criteria	_		Net C	hange in F	Probability	of Exceeda	nce under /	Alternative	D relative t	o the No A	tion Altern	ative	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Whiskeytown Dam	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
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	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	-0.1	0.0	0.0
Lifestages		temperatures ( F)	Mouth of Clear Creek	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.9	0.2	-0.7
	A mail the seconds	Manthhaman	Below Whiskeytown Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	Clear Creek at Igo	59-64	All Years							0.0	0.0	-0.2			
	Julie	temperatures (1)	Mouth of Clear Creek	59-64	All Years							0.0	0.0	2.5			

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



Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
Sacramento River







Table AQ-T-3-3a
Winter-run Chinook Salmon in the Sacramento River

fe Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range	Net 0	Change in F	Probability	of Exceed	ance under A	Iternative A	A relative to	o the No A	ction Alter	native
			Description	Value	J	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below Keswick Dam	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	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9		
			Below RBDD	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
dult Immigration	December	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
and Holding	through July	temperatures (°F)		60	All Years	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0		
			Feather River Confluence	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	-1.0		
				60	All Years	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0		
			Freeport	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	-0.5	0.0	0.0		
				56	All Years					0.0	0.0	0.0	-2.6	-3.6	
			Below Keswick Dam	58	All Years					0.0	0.0	0.0	-0.6	-2.2	
			Bolow Roomon Balli	60	All Years					0.0	0.0	0.0	0.0	-1.6	
				62	All Years					0.0	0.0	0.0	0.0	-1.6	
				56	All Years					0.0	-1.2	-0.5	-2.0	0.0	
			Ball's Ferry	58	All Years					0.0	0.0	-0.3	-3.1	-4.1	
				60	All Years					0.0	0.0	0.0	-0.6	-1.9	
Spawning, egg ncubation, and	April through	Monthly mean water		62	All Years					0.0	0.0	0.0	0.0	-1.5	
initial rearing	August	temperatures (°F)		56	All Years					1.5	-10.3	-0.1	3.3	-2.2	
			Jelly's Ferry	58	All Years					0.0	-2.2	-0.3	-0.6	-7.7	
			22, 2 . 2,	60	All Years					0.0	0.0	0.0	-0.1	-2.5	
				62	All Years					0.0	0.0	0.0	0.0	-1.5	
				56	All Years					1.2	1.4	-3.6	1.3	-3.5	
			Bend Bridge	58	All Years					0.0	-1.6	-1.0	-1.7	-1.6	
				60	All Years					0.0	0.0	0.0	-0.6	-3.9	
				62	All Years					0.0	0.0	0.0	-0.4	-1.5	
				60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-1.6	-0.
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.2	-3.
			Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-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
				60	All Years	0.0	0.0	0.0	0.0	0.0			-1.9	-4.5	-4.
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-1.4	-2.
			Below RBDD	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.1	-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
uvenile Rearing and Emigration	July through April	Monthly mean water temperatures (°F)		75	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
ina Emigration	April	temperatures (°F)		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	-0.
			Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	2.0			0.0	0.0	2.:
				68	All Years	0.0	0.0	0.0	0.0	0.0			-1.0	0.0	-4.
				70 75	All Years	0.0	0.0	0.0	0.0	0.0			-3.9	-6.2	-3.
					All Years	0.0	0.0	0.0	0.0	0.0			-0.7 0.0	-1.7	0.
				60 63	All Years	0.0	0.0	0.0	-0.1 0.0	0.8 1.9			0.0	0.0	0. -0.
					All Years			0.0							
			Freeport	65 68	All Years	0.0	0.0	0.0	0.0	<b>-0.4</b> 0.0			0.0	0.0	-0.
					All Years										-6.2
				70	All Years	0.0	0.0	0.0	0.0	0.0			-5.3	0.6	-6.9 0.0
	1	1		75	All Years	0.0	0.0	0.0	0.0	0.0			-0.4	0.0	0

Table AQ-T-3-3b Spring-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cha	nge in Prol	bability of	Exceedanc	e under A	ternative A	A relative to	the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7
			Below Keswick Dam	64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-3.8
				68 60	All Years All Years					0.0	0.0	0.0	0.0 -1.6	0.0 -0.7	0.0 -1.9	0.0 -4.5	0.0 -4.8
			Below RBDD	64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-4.1
Adult Immigration	February	Monthly mean water		68	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
and Holding	through September	temperatures (°F)		60	All Years					0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
			Feather River Confluence	64	All Years					0.0	0.0	1.9	0.0	0.0	0.0	0.0	-0.2
				68	All Years					0.0	0.0	0.0	0.0	-0.6	-1.0	0.0	-4.6
				60	All Years					0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0
			Freeport	64 68	All Years All Years					0.0	0.0	1.6 0.0	0.0 -0.5	0.0	0.0	0.0	-1.8 -6.2
				56	All Years	-9.4	0.3	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	-4.2
				58	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	0.0					-2.1
			Below Keswick Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0					-0.7
				62	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0					-3.2
		1		56	All Years	-5.5	0.0	0.0	0.0	0.0	0.0	0.0					-10.6
		1	Ball's Ferry	58	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0					-4.8
			,	60	All Years	-1.6	0.0	0.0	0.0	0.0	0.0	0.0					-1.8
		1		62 56	All Years All Years	0.0 -7.3	0.0	0.0	0.0	0.0	0.0	0.0					-2.0 -1.9
Spawning, egg	September	Monthly mean water		58	All Years	-7.3	0.0	0.0	0.0	0.0	0.0	0.0					-5.3
incubation, and initial rearing	through April	temperatures (°F)	Jelly's Ferry	60	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0					-1.8
ililiai realing				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-1.5
				56	All Years	-8.0	0.0	0.0	0.0	0.0	0.0	1.2					0.5
			Bend Bridge	58	All Years	-3.7	0.0	0.0	0.0	0.0	0.0	0.0					-6.7
			Bona Bhago	60	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0					-3.4
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-1.9
				56 58	All Years All Years	-6.9 -3.5	0.0	0.0	0.0	0.0	0.0	4.7 0.0					-1.2 -4.4
			Red Bluff Diversion Dam	60	All Years	-3.5 -1.3	0.0	0.0	0.0	0.0	0.0	0.0					-4.4
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-1.2
				60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-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	-2.2	-3.4
			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	-0.4	-3.2
			Bolow Roomon Burn	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
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)		75 60	All Years	0.0 -1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 -1.9	0.0 -4.5	0.0
and Emigration		tomporataroo (1)		63	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6 0.0	-0.7 0.0	-0.6	-4.5	-4.8 -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	-2.1	-3.7
			Below RBDD	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
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7			
				63	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	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				68 70	All Years 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			_
		1		60	All Years	-11.2	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0			
				63	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0			
Smolt Emigration	October	Monthly mean water	Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.0	-1.3	0.0			
Cirion Enligianoli	through June	temperatures (°F)	. Sauto Mivel Collinerice	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6			
		1		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.5			
		1		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1		60 63	All Years	-2.5 -4.2	0.0	0.0	0.0	0.0	-0.1 0.0	0.8 1.9	0.0 1.2	0.0			
				65	All Years All Years	-4.2 -0.2	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0			$\vdash$
				UO	All Leals	-0.2	U.U	0.0	0.0	0.0	0.0	-0.4	0.2	U.U			
			Freeport		All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0			
			Freeport	68 70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5 0.8	0.0 -1.0			

Table AQ-T-3-3c
Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	A relative	to the No A	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.6	0.0	0.0							0.0	-1.6	-0.7
			Below Keswick Dam	64	All Years	0.0	0.0	0.0							0.0	-2.0	-3.8
				68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
				60	All Years	-1.3	0.0	0.0							-1.9	-4.5	-4.8
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0							0.0	-1.5	-4.1
Adult Immigration	July through	Monthly mean water		68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
and Holding	December	temperatures (°F)	Faathaa Diiyaa Gaaffiyaaaa	60 64	All Years All Years	-11.2 -0.3	0.0	0.0							0.0	0.0	0.0
			Feather River Confluence	68	All Years	0.0	0.0	0.0							-1.0	0.0	-0.2 -4.6
				60	All Years	-2.5	0.0	0.0							0.0	0.0	0.0
			Freeport	64	All Years	0.0	0.0	0.0							0.0	0.0	-1.8
			Пеероп	68	All Years	0.0	0.0	0.0							0.0	0.0	-6.2
				56	All Years	-9.4	0.3	0.0	0.0	0.0	0.0	0.0			0.0	0.0	U.E
				58	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	60	All Years	-0.6	0.0	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	0.0					
				56	All Years	-5.5	0.0	0.0	0.0	0.0	0.0	0.0					
			Ball's Ferry	58	All Years	-2.8	0.0	0.0	0.0	0.0	0.0	0.0					
			Dails Felly	60	All Years	-1.6	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					
Spawning, egg				56	All Years	-7.3	0.0	0.0	0.0	0.0	0.0	1.5					
incubation, and	October	Monthly mean water	Jelly's Ferry	58	All Years	-3.4	0.0	0.0	0.0	0.0	0.0	0.0					
initial rearing	through March	temperatures (°F)		60	All Years	-1.5	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 58	All Years All Years	-8.0 -3.7	0.0	0.0	0.0	0.0	0.0	1.2 0.0					
			Bend Bridge	60	All Years	-3.7 -1.5	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	-6.9	0.0	0.0	0.0	0.0	0.0	4.7					
				58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	60	All Years	-1.3	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					
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9	-4.5	-4.8
			[	63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.4	-2.2
			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	-2.1	-3.7
			20.0 (Cd Didii Diversion Dani	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
				60	All Years	-11.2	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
husaila Danian		Monthly mean water		63 65	All Years All Years	-0.1 0.0	0.0	0.0	0.0	0.0	0.0	3.1 2.0	1.3 -1.3	0.0	0.0	0.0	-0.7 2.2
Juvenile Rearing and Emigration	Year-round	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.0	0.0	-4.6
and Emigration		toporaturos (1)		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	-3.9	-6.2	-4.6
			l l	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.7	0.0
				60	All Years	-2.5	0.0	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0
			l l	63	All Years	-4.2	0.0	0.0	0.0	0.0	0.0	1.9	1.2	0.0	0.0	0.0	-0.2
			F	65	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	0.0	-0.3
			Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	-6.2
			l l	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-1.0	-5.3	0.6	-6.9
			l	75	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

Table AQ-T-3-3d Late Fall-run Chinook Salmon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Ch	ange in Pro	bability of	Exceedan	ce under A	Iternative A	relative to	the No Ac	tion Altern	ative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	64	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					
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Immigration	October	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		60	All Years	-11.2	0.0	0.0	0.0	0.0	0.0	2.7					
			Feather River Confluence	64	All Years	-0.3	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					
				60	All Years	-2.5	0.0	0.0	0.0	0.0	-0.1	0.8					
			Freeport	64	All Years	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					
				56	All Years				0.0	0.0	0.0	0.0	0.0				
			Below Keswick Dam	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				
				56	All Years				0.0	0.0	0.0	0.0	-1.2				
			Ball's Ferry	58	All Years				0.0	0.0	0.0	0.0	0.0				
Spawning, egg		N. 4 4 b b		60 62	All Years All Years				0.0	0.0	0.0	0.0	0.0				
incubation, and	January through May	Monthly mean water temperatures (°F)		56					0.0	0.0	0.0						
initial rearing	unougniviay	temperatures ( 1 )		58	All Years All Years				0.0	0.0	0.0	1.5 0.0	-10.3 -2.2				
			Jelly's Ferry	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				
				56	All Years				0.0	0.0	0.0	1.2	1.4				
				58	All Years				0.0	0.0	0.0	0.0	-1.6				
			Bend Bridge	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			1	
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9	-4.5	-4.8
			l	63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.4	-2.2
			l	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-3.7
			Below Red Bluff Diversion 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
			l i	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
			l	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	-11.2	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
				63	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.7
Juvenile Rearing	Year-round	Monthly mean water	Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.0	-1.3	0.0	0.0	0.0	2.2
and Emigration	rear-round	temperatures (°F)	reamer River Confidence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.0	0.0	-4.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.5	-3.9	-6.2	-3.7
			1	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.7	0.0
				60	All Years	-2.5	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	-4.2	0.0	0.0	0.0	0.0	0.0	1.9	1.2	0.0	0.0	0.0	-0.2
			Freeport	65	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	0.0	-0.3
			Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	-6.2
			[	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-1.0	-5.3	0.6	-6.9
			1	75	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

Table AQ-T-3-3e Steelhead in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cl	nange in Pi	robability o	f Exceeda	nce under	Alternative	A relative	to the No	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	-5.6	-7.9	-0.6	0.0	0.0	0.0					-5.5	-5.7
			Below Keswick Dam	56	All Years	-9.4	0.3	0.0	0.0	0.0	0.0					-3.6	-4.2
				70	All Years	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	0.9					0.0	0.0
			Below Red Bluff Diversion Dam	56	All Years	-6.9	0.0	0.0	0.0	0.0	0.0					0.9	-1.2
Adult Immigration		Monthly mean water		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
and Holding	March	temperatures (°F)		52	All Years	0.0	1.2	0.0	0.0	1.9	0.0					0.0	0.0
			Feather River Confluence	56	All Years	0.0	-0.4	0.0	0.0	0.0	2.5					0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-6.2	-3.7
			Erosport	52 56	All Years All Years	0.0	2.5 0.0	0.0	0.0	1.2 0.0	1.2 1.2					0.0	0.0
			Freeport	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	-6.9
				52	All Years	0.0	0.0	-0.6	0.0	0.0	0.0	1.5				0.0	-0.9
Spawning and egg	December	Monthly mean water		54	All Years			0.0	0.0	0.0	0.0	0.0					
incubation	through April	temperatures (°F)	Below Keswick Dam	57	All Years			0.0	0.0	0.0	0.0	0.0					
iiioabattoii	unough / pin	tomporataroo ( 1 )		60	All Years			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	-0.4	-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
			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
				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	-1.7	-0.9
			Dalla Farri	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
			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
				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	-2.2	-1.6
Juvenile Rearing	Year-round	Monthly mean water	Jelly's Ferry	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
and Emigration	Tour Tourid	temperatures (°F)	ochy s i chry	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	-2.2	-2.0
			Bend Bridge	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	-2.1	-3.7
			Below Red Bluff Diversion Dam	68 72	All Years All Years	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		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				52	All Years All Years	-1.6	-6.8	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0
			Below Red Bluff Diversion Dam	55	All Years	-12.8	0.0	0.0	0.0	0.0	0.9	6.2	7.1				
			Dolow (Yeu Diuli Diversion Dam)	59	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.7				
				52	All Years	0.0	1.2	0.0	0.0	1.9	0.0	0.0	0.0				
Smolt Emigration	October	Monthly mean water	Feather River Confluence	55	All Years	0.0	0.6	0.0	0.0	0.0	5.0	0.0	0.0				
zsic z.i.i.gi alloii	through May	temperatures (°F)		59	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0				
				52	All Years	0.0	2.5	0.0	0.0	1.2	1.2	0.0	0.0				
			Freeport	55	All Years	0.0	-3.1	0.0	0.0	0.0	2.5	0.0	0.0				
				59	All Years	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0				

Table AQ-T-3-3f Green Sturgeon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	61	All Years	-1.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.2
	Eshana.		below Reswick Dam	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Adult Immigration	February through	Monthly mean water	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
and Holding	December	temperatures (°F)	Delow Delevan Intake	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-2.0	-6.1	-2.7	-3.2
	Boodingoi		Freeport	61	All Years	-0.7	0.0	0.0		0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
			Пеероп	66	All Years	-0.1	0.0	0.0		0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2
			Below Keswick Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-2.0	-3.8
			Delow Reswick Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spawning and Egg	March through	Monthly mean water	Below Red Bluff Diversion Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-1.5	-4.1
Incubation	September	temperatures (°F)	Below Red Bidli Diversion Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Wilkins Slough	64	All Years						0.0	0.0	4.0	-2.9	-1.9	0.0	2.3
			Wilkins Slough	68	All Years						0.0	0.0	0.0	-3.3	-10.4	-3.2	-1.4
			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
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Below Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-6.1	-2.7	-3.2
and Emigration		temperatures (°F)	Freeport	66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2

Table AQ-T-3-3g White Sturgeon in the Sacramento River

II ite Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	A relative t	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Hamilton City	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding	November	Monthly mean water temperatures (°F)	Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Holding	through May	temperatures (*F)	Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Hamilton City	61	All Years					0.0	0.0	0.0	-0.5				
			Hamilton City	68	All Years					0.0	0.0	0.0	0.0				
Spawning and Egg	February	Monthly mean water	Below the Delevan Intake	61	All Years					0.0	0.0	2.8	1.3				
Incubation	through May	temperatures (°F)	Delow the Delevan make	68	All Years					0.0	0.0	0.0	0.0				
			Below the Feather River	61	All Years					0.0	0.0	1.9	0.0				
			Confluence	68	All Years					0.0	0.0	0.0	0.0				
			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	-6.1	-2.7	-3.2
Juvenile Rearing	Year-round	Monthly mean water	Knights Landing	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-3.7	-0.6	0.0	0.2
and Emigration		temperatures (°F)	Freeport	66	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2

Table AQ-T-3-3h
Pacific Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	A relative t	o the No A	ction Alterr	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Below Keswick Dam	50-64	All Years				0.0	0.0	0.0	6.4	1.6	1.8	0.8	2.0	
and Egg	through		Below Red Bluff Diversion Dam	50-64	All Years				0.0	0.0	2.3	-0.2	0.0	0.0	0.0	1.5	
Incubation	August	temperatures (°F)	Below the Delevan Intake	50-64	All Years				0.0	-0.2	0.7	0.0	8.0	11.5	2.7	-5.6	
Ammocoete			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
Rearing and	Year-round	Monthly mean water	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
Emigration	real lound	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-5.7	-3.8	0.1

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

Table AQ-T-3-3i River Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	A relative t	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	50-64	All Years					0.0	0.0	6.4	1.6	1.8	0.8		
Adult Spawning and Egg	February	Monthly mean water	Below Red Bluff Diversion Dam	50-64	All Years					0.0	2.3	-0.2	0.0	0.0	0.0		
Incubation	through July	temperatures (°F)	Below the Delevan Intake	50-64	All Years					-0.2	0.7	0.0	8.0	11.5	2.7		
			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
Ammocoete Rearing and	Year-round	Monthly mean water	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
Emigration	i eai-iouilu	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-5.7	-3.8	0.1

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

Table AQ-T-3-3j Hardhead in the Sacramento River

	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under	Alternative	A relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.2
Adults and Other	Year-round	Monthly mean water	Below the Delevan Intake	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-8.9	-12.1	-1.8	-5.9
Lifestages	real-round	temperatures (°F)	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	-0.3
			Below Keswick Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through	Monthly mean water	Below the Delevan Intake	59-64	All Years							6.9	1.8	11.5			
Addit Spawning	June	temperatures (°F)	Freeport	59-64	All Years							-1.5	0.0	0.0			

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

Table AQ-T-3-3I 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	All Years					0.1	0.0	0.0	0.0				
			Freeport	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-3-3m 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,		Monthly mean water temperatures (°F)	Below the Delevan Intake	59-68	All Years							6.9	1.0	0.0			
			Below the Feather River Confluence	59-68	All Years							0.7	0.0	0.6			
Larvae, Fry, and		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	1.7	2.8
Juvenile Rearing and Emigration			Below the Feather River Confluence	61-71	All Years	-11.3	0.0	0.0	0.0	0.0	0.0	1.9	-1.3	3.7	15.0	2.5	0.2

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

Table AQ-T-3-3n American Shad in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	A relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below Red Bluff Diversion Dam	60-70	All Years							0.0	-1.6	-0.7			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	60-70	All Years							2.7	0.6	2.5			
ilitiai Realing			Freeport	60-70	All Years							0.8	-0.8	1.0			
Larvae, Fry, and			Below the Delevan Intake	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
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Below the Feather River Confluence	63-77	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.7
and Emigration			Freeport	63-77	All Years	-4.2	0.0	0.0	0.0	0.0	0.0	1.9	1.2	0.0	0.6	0.0	-0.2

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

Table AQ-T-3-30 Largemouth Bass in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	A relative t	to the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	59-75	All Years						0.0	0.0	0.0	0.0			
Spawning	March through	Monthly mean water	Below the Delevan Intake	59-75	All Years						0.0	6.9	1.0	0.0			
ораwніну -	June	temperatures (°F)	Freeport	59-75	All Years						-0.1	0.1	0.0	0.0			

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

Table AQ-T-3-3p
Delta Smelt in the Delta

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceedar	nce under A	Alternative	A relative t	o the No A	ction Altern	ative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult		Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years			0.0	0.0	0.0	-0.1	0.1	0.5				
Spawning and Egg Incubation	February through May	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years					0.0	-0.1	0.1	0.5				
Larval	March through June	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years						-0.1	0.1	0.5	0.0			
Juvenile	May through July	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years								0.5	0.0	0.0		

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







Table AQ-T-3-5a
Winter-run Chinook Salmon in the Sacramento River

fe Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range	Net 0	Change in F	Probability	of Exceeda	ance under A	Iternative E	3 relative to	the No A	tion Alter	native
			Description	Value	J	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below Keswick Dam	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	0.0	0.0	0.0	0.0	0.0	-1.6	-0.4	-1.4		
			Below RBDD	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
dult Immigration	December	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
and Holding	through July	temperatures (°F)		60	All Years	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0		
			Feather River Confluence	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	-1.6		
				60	All Years	0.0	0.0	0.0	-0.1	1.3	0.0	0.0	0.0		
			Freeport	64	All Years	0.0	0.0	0.0	0.0	0.6	1.2	0.0	0.0		
				68	All Years	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0		
				56	All Years					0.0	0.5	0.0	-2.8	-1.4	
			Below Keswick Dam	58	All Years					0.0	0.0	0.0	-0.9	-1.9	
			Bolow Roomon Balli	60	All Years					0.0	0.0	0.0	0.0	-2.2	
				62	All Years					0.0	0.0	0.0	0.0	-2.5	
				56	All Years					0.0	-0.3	0.5	-1.9	-0.2	
			Ball's Ferry	58	All Years					0.0	0.0	-0.3	-3.0	-2.5	
				60	All Years					0.0	0.0	0.0	-0.6	-2.1	
Spawning, egg ncubation, and	April through	Monthly mean water		62	All Years					0.0	0.0	0.0	0.0	-2.4	
initial rearing	August	temperatures (°F)		56	All Years					0.9	-6.0	0.8	0.9	-7.7	
			Jelly's Ferry	58	All Years					0.0	-1.0	-0.2	-0.5	-5.1	
			22, 2 . 2,	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	
				56	All Years					0.9	4.0	-4.4	-3.2	-2.6	
			Bend Bridge	58	All Years					0.0	-1.3	0.3	-1.0	-0.3	
				60	All Years					0.0	0.0	0.0	-1.1	-3.3	
				62	All Years					0.0	0.0	0.0	-0.4	-2.4	
				60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.2	-1.
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.2	-0.
			Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-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
				60	All Years	0.0	0.0	0.0	0.0	0.0			-1.4	-3.6	-4.
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-2.4	-1.
			Below RBDD	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.6	-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
uvenile Rearing	July through	Monthly mean water		75	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
and Emigration	April	temperatures (°F)		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	4.4			0.0	0.0	-0.
			Feather River Confluence	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			-1.6	0.0	-4.
				70	All Years	0.0	0.0	0.0	0.0	0.0			-4.6	-2.5	-5.
				75	All Years	0.0	0.0	0.0	0.0	0.0			0.6	-1.7	0.
				60	All Years	0.0	0.0	0.0	-0.1	1.3			0.0	0.0	0.
				63	All Years	0.0	0.0	0.0	0.0	2.5			0.0	0.0	0.0
			Freeport	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	1.8	-6.9
				75	All Years	0.0	0.0	0.0	0.0	0.0			-0.3	0.0	0.0

Table AQ-T-3-5b Spring-run Chinook Salmon in the Sacramento River

_ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cha	nge in Prol	bability of I	Exceedanc	e under Al	ternative I	3 relative to	the No Ac	tion Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-1.1
			Below Keswick Dam	64	All Years					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
			D-I DDDD	60	All Years					0.0	0.0	0.0	-1.6	-0.4	-1.4	-3.6	-4.
	February		Below RBDD	64 68	All Years All Years					0.0	0.0	0.0	0.0	0.0	0.0	-2.5 0.0	-2. 0.0
Adult Immigration and Holding	through	Monthly mean water temperatures (°F)		60	All Years		_			0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
	September	, , , ,	Feather River Confluence	64	All Years					0.0	0.0	3.1	0.6	0.0	0.0	0.0	-1.3
				68	All Years					0.0	0.0	0.0	1.3	-0.6	-1.6	0.0	-4.
				60	All Years					0.0	-0.1	1.3	0.0	0.0	0.0	0.0	0.0
			Freeport	64	All Years					0.0	0.0	0.6	1.2	0.0	0.0	0.0	-1.9
				68	All Years					0.0	0.0	0.0	2.0	0.0	0.0	0.0	-5.0
				56	All Years	-7.2	0.1	0.0	0.0	0.0	0.0	0.0					-4.4
			Below Keswick Dam	58	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0					-0.2
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0					-1.1
		1		62	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0					-1.5
		1		56	All Years	-5.9	0.0	0.0	0.0	0.0	0.0	0.0					-11.
		ĺ	Ball's Ferry	58	All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0					-4.9
		1		60 62	All Years All Years	-1.3 0.0	0.0	0.0	0.0	0.0	0.0	0.0					-2. -1.
		1		56	All Years	-7.3	0.0	0.0	0.0	0.0	0.0	0.0					-1.5
Spawning, egg	September	Monthly mean water		58	All Years	-4.2	0.0	0.0	0.0	0.0	0.0	0.0					-5.9
incubation, and initial rearing	through April	temperatures (°F)	Jelly's Ferry	60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0					-1.3
initial realing				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-1.0
				56	All Years	-6.3	0.0	0.0	0.0	0.0	0.0	0.9					-2.2
			Bond Bridge	58	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.0					-7.3
			Bend Bridge	60	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0					-3.7
				62	All Years	0.0	0.0	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	0.0	4.5					-1.3
			Red Bluff Diversion Dam	58	All Years	-3.9	0.0	0.0	0.0	0.0	0.0	0.3					-3.6
				60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0					-4.7
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	-1.1
				60	All Years All Years	-0.5 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2 -2.2	-1.1 -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	-0.4	-3.0
			Below Keswick 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
				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
Juvenile Rearing		Monthly mean water		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
and Emigration	Year-round	temperatures (°F)		60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.4	-1.4	-3.6	-4.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.4	-1.2
			Below RBDD	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-3.6
			Bolow RBBB	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
		1		60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.4			
		1	Polony Red Bloff Discosi	65	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1	Below Red Bluff Diversion Dam	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		ĺ		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years	-10.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0			
		ĺ		63	All Years	0.9	0.0	0.0	0.0	0.0	0.0	4.4	2.1	0.0			
Pmolt Emi	October	Monthly mean water	Footbar Birra- C	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0			
Smolt Emigration	through June	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6			
		1		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0			
		1		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1		60	All Years	-3.7	0.0	0.0	0.0	0.0	-0.1	1.3	0.0	0.0			
		1		63	All Years	-4.4	0.0	0.0	0.0	0.0	0.0	2.5	1.2	0.0			
		ĺ	Freeport	65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0			
		ĺ	Поорон	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0			
		ĺ		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-2.9			
		1		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Table AQ-T-3-5c
Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	B relative	to the No A	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.5	0.0	0.0							0.0	-2.2	-1.1
			Below Keswick Dam	64	All Years	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
				60	All Years	-1.2	0.0	0.0							-1.4	-3.6	-4.7
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0							0.0	-2.5	-2.4
Adult Immigration	July through	Monthly mean water		68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
and Holding	December	temperatures (°F)	Faathaa Diwaa Caaffiyaaaa	60	All Years	-10.0 -0.9	0.0	0.0							0.0	0.0	0.0 -1.3
			Feather River Confluence	64	All Years											0.0	
				68 60	All Years All Years	0.0 -3.7	0.0	0.0							-1.6 0.0	0.0	-4.6 0.0
			Freeport	64	All Years	1.0	0.0	0.0						-	0.0	0.0	-1.9
			Freeport	68	All Years	0.0	0.0	0.0						-	0.0	0.0	-5.0
				56	All Years	-7.2	0.0	0.0	0.0	0.0	0.0	0.0		-	0.0	0.0	-5.0
				58	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0		1			
				62	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0		1			
				56	All Years	-5.9	0.0	0.0	0.0	0.0	0.0	0.0					
			D. III. E	58	All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0					
			Ball's Ferry	60	All Years	-1.3	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				56	All Years	-7.3	0.0	0.0	0.0	0.0	0.0	0.9					
Spawning, egg incubation, and	October	Monthly mean water	Jelly's Ferry	58	All Years	-4.2	0.0	0.0	0.0	0.0	0.0	0.0					
initial rearing	through March	temperatures (°F)	Jelly 3 Felly	60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0					
illida realing				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				56	All Years	-6.3	0.0	0.0	0.0	0.0	0.0	0.9					
			Bend Bridge	58	All Years	-4.5	0.0	0.0	0.0	0.0	0.0	0.0					
				60	All Years	-1.5	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	-6.5	0.0	0.0	0.0	0.0	0.0	4.5					
			Below Red Bluff Diversion Dam	58	All Years	-3.9	0.0	0.0	0.0	0.0	0.0	0.3					
				60 62	All Years All Years	-1.2 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	-1.6	-0.4	-1.4	-3.6	-4.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.4	-4.7
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-3.6
			Below Red Bluff Diversion 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
				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
			l l	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	-10.0	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	0.9	0.0	0.0	0.0	0.0	0.0	4.4	2.1	0.0	0.0	0.0	-0.7
Juvenile Rearing		Monthly mean water	F	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	1.1
and Emigration	Year-round	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.6	0.0	-4.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-4.6	-2.5	-5.4
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-1.7	0.0
				60	All Years	-3.7	0.0	0.0	0.0	0.0	-0.1	1.3	0.0	0.0	0.0	0.0	0.0
			[	63	All Years	-4.4	0.0	0.0	0.0	0.0	0.0	2.5	1.2	0.0	0.0	0.0	0.0
			Freeport	65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	-1.3
			, respect	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	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	1.9	-2.9	-4.1	1.8	-6.9
		1		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0

Table AQ-T-3-5d Late Fall-run Chinook Salmon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Ch	ange in Pro	bability of	Exceedan	ce under Al	ternative B	relative to	the No Ac	tion Altern	ative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.5	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	64	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					
				60	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Immigration	October	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		60	All Years	-10.0	0.0	0.0	0.0	0.0	0.0	2.5					
			Feather River Confluence	64	All Years	-0.9	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					
				60	All Years	-3.7	0.0	0.0	0.0	0.0	-0.1	1.3					
			Freeport	64	All Years	1.0	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					
				56	All Years				0.0	0.0	0.0	0.0	0.5				
			Below Keswick Dam	58	All Years				0.0	0.0	0.0	0.0	0.0				4
				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				
				56	All Years				0.0	0.0	0.0	0.0	-0.3				
			Ball's Ferry	58	All Years				0.0	0.0	0.0	0.0	0.0				-
Spawning, egg		N. 4 4 b b		60 62	All Years All Years				0.0	0.0	0.0	0.0	0.0				_
incubation, and	January through May	Monthly mean water temperatures (°F)		56					0.0	0.0	0.0	0.0					_
initial rearing	unougniviay	temperatures ( 1 )		58	All Years All Years				0.0	0.0	0.0	0.9	-6.0 -1.0				
			Jelly's Ferry	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				
				56	All Years				0.0	0.0	0.0	0.0	4.0				
				58	All Years				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				
				62	All Years				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	-1.6	-0.4	-1.4	-3.6	-4.7
			l	63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.4	-1.2
			l	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-3.6
			Below Red Bluff Diversion 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
			l i	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
			l	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	-10.0	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	0.9	0.0	0.0	0.0	0.0	0.0	4.4	2.1	0.0	0.0	0.0	-0.7
Juvenile Rearing	Year-round	Monthly mean water	Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	1.1
and Emigration	rear-round	temperatures (°F)	reamer River Confidence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-1.6	0.0	-4.6
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-4.6	-2.5	-5.4
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-1.7	0.0
				60	All Years	-3.7	0.0	0.0	0.0	0.0	-0.1	1.3	0.0	0.0	0.0	0.0	0.0
				63	All Years	-4.4	0.0	0.0	0.0	0.0	0.0	2.5	1.2	0.0	0.0	0.0	0.0
			Freeport	65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.0	0.0	0.0	-1.3
			Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	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	1.9	-2.9	-4.1	1.8	-6.9
			1	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0

Table AQ-T-3-5e Steelhead in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	B relative	to the No A	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	-3.2	-7.7	-0.6	0.0	0.0	0.0					-11.1	-4.0
			Below Keswick Dam	56	All Years	-7.2	0.1	0.0	0.0	0.0	0.0					-1.4	-4.4
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	0.0	-7.1	0.0	0.0	0.0	2.2					0.0	0.0
			Below Red Bluff Diversion Dam	56	All Years	-6.5	0.0	0.0	0.0	0.0	0.0					0.9	-1.3
		Monthly mean water		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
and Holding	March	temperatures (°F)	F	52	All Years All Years	0.0	2.5 -0.4	0.0	0.0	1.4 0.0	1.2					0.0	0.0
			Feather River Confluence	56		0.0	0.0		0.0		2.5					-2.5	-5.4
				70 52	All Years All Years	0.0	0.0	0.0	0.0	0.0 -0.4	0.0 1.2					0.0	0.0
			Freeport	56	All Years	0.0	-0.2	0.0	0.0	0.0	1.2					0.0	0.0
			rreeport	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					1.8	-6.9
				52	All Years	0.0	0.0	-0.6	0.0	0.0	0.0	2.1				1.0	0.0
Spawning and egg	December	Monthly mean water		54	All Years			0.0	0.0	0.0	0.0	0.0					
incubation	through April	temperatures (°F)	Below Keswick Dam	57	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					
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.0
			Below Keswick 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
			Below Reswick 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
				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	-1.4	-0.6
			Ball's Ferry	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
			24	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	-1.9	-1.3
Juvenile Rearing	Year-round	Monthly mean water	Jelly's Ferry	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
and Emigration		temperatures (°F)	l	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 65	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 -2.2	0.0 -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
			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
				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	-2.6	-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
			Below Red Bluff Diversion 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
				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
				52	All Years	0.0	-7.1	0.0	0.0	0.0	2.2	4.5	0.0				
			Below Red Bluff Diversion Dam	55	All Years	-12.1	0.0	0.0	0.0	0.0	0.0	7.4	7.6				
				59	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.5				
	October	Monthly moon water		52	All Years	0.0	2.5	0.0	0.0	1.4	1.2	0.0	0.0				
Smolt Emigration	through May	Monthly mean water temperatures (°F)	Feather River Confluence	55	All Years	0.0	0.6	0.0	0.0	0.0	5.0	0.0	0.0				
	anoughiway	tomperatures ( F)		59	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.9	0.0				
				52	All Years	0.0	0.6	0.0	0.0	-0.4	1.2	0.0	0.0				
			Freeport	55	All Years	0.0	-2.5	0.0	0.0	0.0	2.5	0.0	0.0				
			[	59	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0				

Table AQ-T-3-5f Green Sturgeon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	B relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	61	All Years	-2.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-2.4	-1.3
	Eshana.		below Reswick Dam	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7
Adult Immigration	February	Monthly mean water	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
and Holding	through December	temperatures (°F)	Below Delevan Intake	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
	December		Freeport	61	All Years	0.6	0.0	0.0		0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0
			Пеероп	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	2.5	-0.2	0.0	0.0	-1.2
			Below Keswick Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-1.6	-4.0
			Delow Reswick Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spawning and Egg	March through	Monthly mean water	Below Red Bluff Diversion Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-2.5	-2.4
Incubation	September	temperatures (°F)	Below Red Blull Diversion Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Wilkins Slough	64	All Years						0.0	0.0	7.5	0.6	-1.1	0.0	-0.1
			Wilkins Slough	68	All Years						0.0	0.0	0.0	-3.1	-4.0	0.6	-1.7
			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	-2.1	-0.5
Juvenile Rearing	Year-round	Monthly mean water	Below 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
and Emigration		temperatures (°F)	Freeport	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	-1.2

Table AQ-T-3-5g White Sturgeon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	B relative t	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Hamilton City	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration		Monthly mean water temperatures (°F)	Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Holding	through May	temperatures (*F)	Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Hamilton City	61	All Years					0.0	0.0	0.0	3.2				
			Harrillon City	68	All Years					0.0	0.0	0.0	0.0				
Spawning and Egg	February	Monthly mean water	Below the Delevan Intake	61	All Years					0.0	0.0	2.8	1.9				
Incubation	through May	temperatures (°F)	below the belevan make	68	All Years					0.0	0.0	0.0	0.0				
			Below the Feather River	61	All Years					0.0	0.0	3.1	0.1				
			Confluence	68	All Years					0.0	0.0	0.0	1.3				
			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
Juvenile Rearing	Year-round	Monthly mean water	Knights Landing	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-1.7	-0.5	-0.4	-1.9
and Emigration	. III. Tourid	temperatures (°F)	Freeport	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-0.2	0.0	0.0	-1.2

Table AQ-T-3-5h
Pacific Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	B relative t	o the No A	ction Alterr	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Below Keswick Dam	50-64	All Years				0.0	0.0	0.9	8.1	1.5	-0.1	0.0	1.6	
and Egg	through		Below Red Bluff Diversion Dam	50-64	All Years				0.0	0.0	3.6	-0.2	0.0	0.0	0.0	2.5	
Incubation	August	temperatures (°F)	Below the Delevan Intake	50-64	All Years				0.0	-0.2	1.8	0.1	-2.2	1.6	1.9	-4.7	
Ammocoete			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
Rearing and	Year-round	Monthly mean water	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
Emigration	. ca. round	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	-1.9	-3.8	-0.1

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

Table AQ-T-3-5i River Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	B relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	50-64	All Years					0.0	0.9	8.1	1.5	-0.1	0.0		
Adult Spawning and Egg	February	Monthly mean water	Below Red Bluff Diversion Dam	50-64	All Years					0.0	3.6	-0.2	0.0	0.0	0.0		
Incubation	through July	temperatures (°F)	Below the Delevan Intake	50-64	All Years					-0.2	1.8	0.1	-2.2	1.6	1.9		
			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
Ammocoete Rearing and	Year-round	Monthly mean water	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
Emigration	i ear-iounu	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	-1.9	-3.8	-0.1

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

Table AQ-T-3-5j Hardhead in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under	Alternative	B relative	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-3.0
Adults and	Other Year-round	Monthly mean water	Below the Delevan Intake	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	-7.9	-3.3	3.2	-3.2
Lifestag	es real-loulid	temperatures (°F)	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	-1.3
			Below Keswick Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spav	April through	Monthly mean water	Below the Delevan Intake	59-64	All Years							7.4	0.5	1.6			
Adult Spaw	June June	temperatures (°F)	Freeport	59-64	All Years							-0.3	-1.2	0.0			

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

Table AQ-T-3-5I Splittail in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		N	et Change i	n Probability	of Exceeda	ance under	Alternative I	3 relative to	the No Action	on Alternati	ve	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	February	Monthly mean water	Below the Delevan Intake	45-75	All Years					0.3	0.0	0.0	0.0				
Spawning	through May	temperatures (°F)	Freeport	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-3-5m Striped Bass in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under /	Alternative	B relative t	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below the Delevan Intake	59-68	All Years							7.4	2.7	0.0			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	59-68	All Years							0.9	-1.3	0.6			
Larvae, Fry, and		Monthly mean water	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	1.7	2.2
Juvenile Rearing and Emigration	Year-round	temperatures (°F)	Below the Feather River Confluence	61-71	All Years	-8.8	0.0	0.0	0.0	0.0	0.0	3.1	-0.9	3.7	10.0	0.0	1.4

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

Table AQ-T-3-5n American Shad in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	B relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below Red Bluff Diversion Dam	60-70	All Years							0.0	-1.6	-0.4			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	60-70	All Years							2.5	0.5	0.0			
miliai reaning			Freeport	60-70	All Years							1.3	-1.9	2.9			
Larvae, Fry, and			Below the Delevan Intake	63-77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	6.0	-2.4	-0.1	1.7
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Below the Feather River Confluence	63-77	All Years	0.9	0.0	0.0	0.0	0.0	0.0	4.4	2.1	0.0	-0.4	0.0	-0.7
and Emigration			Freeport	63-77	All Years	-4.4	0.0	0.0	0.0	0.0	0.0	2.5	1.2	0.0	0.0	0.0	0.0

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

Table AQ-T-3-50 Largemouth Bass in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability (	of Exceeda	nce under	Alternative	B relative t	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	59-75	All Years						0.0	0.0	0.0	0.0			
Spawning	March through	Monthly mean water	Below the Delevan Intake	59-75	All Years						0.0	7.4	2.7	0.0			
Opawning	June	temperatures (°F)	Freeport	59-75	All Years						0.0	0.3	0.0	0.0			

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

Table AQ-T-3-5p
Delta Smelt in the Delta

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	B relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult	December through May	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years			0.0	0.0	0.0	0.0	0.3	-2.0				
Spawning and Egg Incubation		Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years					0.0	0.0	0.3	-2.0				
Larval	March through June	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years						0.0	0.3	-2.0	0.0			
Juvenile	May through July	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years								-2.0	0.0	0.0		

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







Table AQ-T-3-7a
Winter-run Chinook Salmon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range	Net 0	Change in F	Probability	of Exceed	ance under A	Iternative (	relative to	o the No A	ction Alter	native
			Description	Value	J	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below Keswick Dam	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	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9		
			Below RBDD	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
dult Immigration	December	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
and Holding	through July	temperatures (°F)		60	All Years	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0		
			Feather River Confluence	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	1.3	-0.6	-2.0		
				60	All Years	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0		
			Freeport	64	All Years	0.0	0.0	0.0	0.0	0.8	1.2	0.0	0.0		
				68	All Years	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0		
				56	All Years					0.0	0.0	0.0	-3.9	-3.7	
			Below Keswick Dam	58	All Years					0.0	0.0	0.0	-0.4	-2.5	
				60	All Years					0.0	0.0	0.0	0.0	-3.3	
				62	All Years					0.0	0.0	0.0	0.0	-3.4	
				56	All Years					0.0	-1.8	0.5	-2.9	-0.7	
			Ball's Ferry	58	All Years					0.0	0.0	-0.3	-3.9	-4.6	
				60	All Years					0.0	0.0	0.0	-0.2	-2.5	
Spawning, egg ncubation, and	April through	Monthly mean water		62	All Years					0.0	0.0	0.0	0.0	-3.3	
initial rearing	August	temperatures (°F)		56	All Years					1.4	-6.3	0.7	2.3	-6.8	
	arrearing		Jelly's Ferry	58	All Years					0.0	-1.1	-0.3	-1.2	-5.9	
			55, 5	60	All Years					0.0	0.0	0.0	0.0	-3.0	
				62	All Years					0.0	0.0	0.0	0.0	-3.4	
				56	All Years					1.1	4.0	-2.0	-1.2	-4.4	
			Bend Bridge	58	All Years					0.0	-2.2	-1.3	-2.7	-1.2	
				60	All Years					0.0	0.0	0.0	-0.7	-4.6	
				62	All Years					0.0	0.0	0.0	-0.4	-3.5	
				60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.3	-1.
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-2.9	-1.
			Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-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
				60	All Years	0.0	0.0	0.0	0.0	0.0			-1.9	-5.0	-4.
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-3.6	-3.
			Below RBDD	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.2	-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
uvenile Rearing	July through	Monthly mean water		75	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
ina Emigration	April	temperatures (°F)		60	All Years	0.0	0.0	0.0	0.0	2.7			0.0	0.0	0.
and Emigration				63	All Years	0.0	0.0	0.0	0.0	3.1			0.0	0.0	-0.
			Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	2.0			0.0	0.0	1.:
				68	All Years	0.0	0.0	0.0	0.0	0.0			-2.0	0.0	-3.
				70	All Years	0.0	0.0	0.0	0.0	0.0			-3.3	-8.7	-5.
				75	All Years	0.0	0.0	0.0	0.0	0.0			-0.7	-3.0	0.
				60	All Years	0.0	0.0	0.0	-0.1	0.8			0.0	0.0	0.
				63	All Years	0.0	0.0	0.0	0.0	1.3			0.0	0.0	-0.
			Freeport	65	All Years	0.0	0.0	0.0	0.0	-0.4			0.0	0.0	-1.
			•	68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-7.
				70	All Years	0.0	0.0	0.0	0.0	0.0			-5.3	0.0	-8.9
	1			75	All Years	0.0	0.0	0.0	0.0	0.0			-0.4	0.0	0.

Table AQ-T-3-7b Spring-run Chinook Salmon in the Sacramento River

Personal Programs   Part	Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cha	nge in Pro	bability of	Exceedanc	e under Al	ternative (	C relative to	the No A	ction Alter	native	
Part   Protect   Part   Protect   Part   P				Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Patients   Patients					60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-3.3	-1.7
Martingration of the properties of the propertie				Below Keswick Dam	64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-1.4
## Processing Segmentary and Interreptation and Interreptation (Processing Segmentary Se					68	All Years							0.0	0.0				0.0
Marriagnorphis   Marr																		-4.7
## Preference (*)  ## Preference		February		Below RBDD														-3.3
Perfect Contained   Perf					_													0.0
Perspect   Perspect	and Holding	September	temperatures (1)	Footbar Biver Confluence	_													0.0
Fregorial Programme And Progra				realiter River Confidence	_													-1.4 -3.4
Preport																		0.0
Separating				Freeport	_													-1.8
Spenning and particular serving				·														-7.5
Speciment   Spec					56		-7.4	0.4	0.0	0.0			0.0					-4.3
Sporting				Delem Keendel Dees	58	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	0.0					-2.2
Separating				Below Keswick Dam	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0					-1.7
Barl's Farmy   Solution and part   Solution   Solutio			1		62	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0					-3.0
Mark Fely			1		_													-13.2
Spearing of provided in the			1	Ball's Ferry	_													-5.4
Spearing again charton and growth of the country			ĺ		_													-2.7
Severating egg   Seve			1															-2.7
Small Emigration   April   Small Emigration   April	Spawning, egg																	-0.2
## Fregord Park   Park	incubation, and			Jelly's Ferry														-4.9 -1.6
Bend Bridge   Bend Bridge	initial rearing	ioug/piii	tomporataroo ( 1 )															-1.6
Bend Bridge   Bend Bridge					_													0.9
Send Bridge   Send Bridge   Send Bridge   Send Bridge   Send All Years   O.2.   O.0.					_													-9.3
Red Bildf Diversion Dam   Red Bildf Divers					_													-4.4
No.   Section																		-3.2
Monthly mean water   Emperatures (°F)   Firesport						All Years		0.0	0.0	0.0	0.0	0.0	4.7					-3.3
Second Emigration   Second Properties   Seco					58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0					-4.1
Monthly mean water temperatures (F)   Feather River Confluence   Feather				Red Blull Diversion Dam	60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0					-4.7
Part Found and Emigration   Part Found   P					62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-2.1
Vear-round and Emigration   Vear-round   Perference					_	All Years												-1.7
Vear-round   Vear-round   Vear-round   Peach Result   Peacher River Confluence																		-1.7
Veal-round   Vea				Below Keswick Dam														-2.5
Juverile Rearing and Emigration   Vear-round   Part-round   Part-rou																		0.0
## Pear-Yound remperatures (°F) ## Pear-Yound remperatures (°F																		0.0
Below RBDD   Freeport   Freeport		Year-round																-4.7
Below RBDD   Below RBDD   Below RBDD   65	· ·		. , , ,															-3.3
Smolt Emigration   Feather River Confluence   Freeport   Freepor					_													-2.7
Small Emigration   Small Feather River Confluence   Feather River Confluence   Freeport				Below RBDD														0.0
A					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
Smolt Emigration   Cotober through June   Freeport					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
Smolt Emigration   Cctober through June   Freeport					60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7			
Dam   68					_	All Years				0.0								
October through June   Monthly mean water temperatures (°F)   Feather River Confluence   Freeport										0.0								
October through June   October through June   Freeport   Freepor				Dam														
Smolt Emigration October through June Peather River Confluence Freeport Freeport   Feather River Confluence   60																		
Smolt Emigration October through June Peather River Confluence Feather River Confluence Feather River Confluence 63			ĺ															
Smolt Emigration Principle Feather River Confluence Feather River Ri			1								_							
Smolt Emigration through June temperatures (°F)    Feather River Confluence    68			L		-													
Freeport    To   All Years   0.0   0	Smolt Emigration			Feather River Confluence														
Freeport  75 All Years 0.0 0.0 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 -0.1 0.8 0.0 0.0 0.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0			1		_													
Freeport  63 All Years			ĺ															
Freeport 65 All Years 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.			1															
Freeport 68 All Years 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.			1															
70 All Years 0.0 0.0 0.0 0.0 0.0 0.0 1.9 -2.3			1	Freeport														
			ĺ															
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Table AQ-T-3-7c Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	C relative	to the No A	Action Alter	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-1.3	0.0	0.0							0.0	-3.3	-1.7
			Below Keswick Dam	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
				60	All Years	-2.0	0.0	0.0							-1.9	-5.0	-4.7
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0							0.0	-3.4	-3.3
Adult Immigration	July through	Monthly mean water		68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
and Holding	December	temperatures (°F)		60	All Years	-10.0	0.0	0.0							0.0	0.0	0.0
			Feather River Confluence	64	All Years	-0.2	0.0	0.0							0.0	0.0	-1.4
				68	All Years	0.0	0.0	0.0							-2.0	0.0	-3.4
				60	All Years	-2.5	0.0	0.0							0.0	0.0	0.0
			Freeport	64 68	All Years	-0.1 0.0	0.0	0.0							0.0	0.0	-1.8
	-				All Years		0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-7.5
				56 58	All Years All Years	-7.4 -3.3	0.4	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	60	All Years All Years	-3.3 -1.3	0.0	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	0.0					_
				56	All Years	-4.2	0.0	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	0.0					
			Ball's Ferry	60	All Years	-2.4	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					
	October Infonting mean water		56	All Years	-6.0	0.0	0.0	0.0	0.0	0.0	1.4						
Spawning, egg	October		l <u>-</u>	58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0					
incubation, and	through March		Jelly's Ferry	60	All Years	-2.3	0.0	0.0	0.0	0.0	0.0	0.0					
initial rearing	, and the second		<b> </b>	62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				56	All Years	-6.7	0.0	0.0	0.0	0.0	0.0	1.1					
			Bend Bridge	58	All Years	-3.9	0.0	0.0	0.0	0.0	0.0	0.0					
			Berid Bridge	60	All Years	-2.2	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	-5.2	0.0	0.0	0.0	0.0	0.0	4.7					
			Below Red Bluff Diversion Dam	58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0					
			Bolow Rod Blan Brotolon Ban	60	All Years	-2.0	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					
				60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9	-5.0	-4.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-3.6	-3.3
			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	-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
				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
				75 60	All Years All Years	-10.0	0.0	0.0	0.0	0.0	0.0	0.0 2.7	0.0	0.0	0.0	0.0	0.0
				63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.7
Juvenile Rearing		Monthly mean water		65	All Years	0.5	0.0	0.0	0.0	0.0	0.0	2.0	-1.3	0.0	0.0	0.0	1.2
and Emigration	Year-round	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-2.0	0.0	-3.4
	Emigration rear-round t		 	70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-3.3	-8.7	-5.4
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-3.0	0.0
				60	All Years	-2.5	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	-4.4	0.0	0.0	0.0	0.0	0.0	1.3	0.6	0.0	0.0	0.0	-0.2
			<u></u>	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	-1.4
			Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	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	1.9	-2.3	-5.3	0.0	-8.9
				75	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

Table AQ-T-3-7d Late Fall-run Chinook Salmon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Ch	ange in Pro	bability of	Exceedand	ce under Al	ternative C	relative to	the No Ac	tion Altern	ative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	64	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					
				60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Immigration	October	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)	Fresh on Division Confliction	60	All Years	-10.0	0.0	0.0	0.0	0.0	0.0	2.7					
			Feather River Confluence	64	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	1.9					
				68 60	All Years	0.0 -2.5	0.0	0.0	0.0	0.0	0.0	0.0					
			Freeport	64	All Years All Years	-2.5 -0.1	0.0	0.0	0.0	0.0	-0.1 0.0	0.8					
			Freeport	68	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	0.0	0.0				
				58	All Years				0.0	0.0	0.0	0.0	0.0				
			Below Keswick Dam	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			1	
				56	All Years				0.0	0.0	0.0	0.0	-1.8				
				58	All Years				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				
Spawning, egg	bation, and through May temperate	Monthly mean water		62	All Years				0.0	0.0	0.0	0.0	0.0				
incubation, and	through May	temperatures (°F)		56	All Years				0.0	0.0	0.0	1.4	-6.3				
initial rearing		. , ,	l	58	All Years				0.0	0.0	0.0	0.0	-1.1				
			Jelly's Ferry	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				
				56	All Years				0.0	0.0	0.0	1.1	4.0				
			Donal Daiden	58	All Years				0.0	0.0	0.0	0.0	-2.2				
			Bend Bridge	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				
				60	All Years	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-1.9	-5.0	-4.7
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-3.6	-3.3
			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	-3.2	-2.7
			Bolow Hod Blair Bivoroion Bain	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
				60	All Years	-10.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
				63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.7
Juvenile Rearing	Year-round	Monthly mean water	Feather River Confluence	65	All Years	0.5	0.0	0.0	0.0	0.0	0.0	2.0	-1.3	0.0	0.0	0.0	1.2
and Emigration Year-rou		temperatures (°F)		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.6	-2.0	0.0	-3.4
				70 75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-3.3 -0.7	-8.7 -3.0	-5.0
				75 60	All Years All Years	-2.5	0.0	0.0	0.0	0.0	0.0 -0.1	0.0	0.0	0.0		0.0	0.0
				63	All Years All Years	-2.5 -4.4	0.0	0.0	0.0	0.0	0.0	1.3	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	-0.4	0.6	0.0	0.0	0.0	-0.2
			Freeport	68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	-7.5
				70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-2.3	-5.3	0.0	-7.5 -8.9
				75	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

Table AQ-T-3-7e Steelhead in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cl	hange in Pi	obability o	f Exceeda	nce under	Alternative	C relative	to the No	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	-5.3	-8.3	-0.6	0.0	0.0	0.0					-9.0	-5.3
			Below Keswick Dam	56	All Years	-7.4	0.4	0.0	0.0	0.0	0.0					-3.7	-4.3
				70	All Years	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	0.9					0.0	0.0
			Below Red Bluff Diversion Dam	56	All Years	-5.2	0.0	0.0	0.0	0.0	0.0					0.9	-3.3
Adult Immigration		Monthly mean water		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
and Holding	March	temperatures (°F)		52	All Years	0.0	2.5	0.0	0.0	0.6	1.2					0.0	0.0
			Feather River Confluence	56	All Years	0.0	0.0	0.0	0.0	0.0	2.5					0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-8.7	-5.0
			F#	52	All Years	0.0	0.0	0.0	0.0	1.2	1.2					0.0	0.0
			Freeport	56 70	All Years All Years	0.0	-0.2 0.0	0.0	0.0	0.0	1.2 0.0					0.0	0.0 -8.9
				70 52	All Years	0.0	0.0	-0.6	0.0	0.0	0.0	2.2				0.0	-6.9
Spawning and egg	December	Monthly mean water		54	All Years			0.0	0.0	0.0	0.0	0.0					
incubation	through April	temperatures (°F)	Below Keswick Dam	57	All Years			0.0	0.0	0.0	0.0	0.0					
incubation	unough Apin	temperatures ( 1 )		60	All Years			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	-0.4	-2.5
				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
			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
			ľ	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	-1.7	-0.7
			Dallia Farra	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
			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
				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	-2.4	-1.4
Juvenile Rearing	Year-round	Monthly mean water	Jelly's Ferry	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
and Emigration	real-louliu	temperatures (°F)	Jelly's Felly	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	-2.6	-1.8
			Bend Bridge	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
			Bona Briago	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	-3.2	-2.7
			Below Red Bluff Diversion 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
				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
			Dalam Bad Bloff Diversion Dam	52	All Years	-1.2	-7.5	0.0	0.0	0.0	0.9	4.6	0.0				
			Below Red Bluff Diversion Dam	55	All Years	-11.6	0.0	0.0	0.0	0.0	0.0	7.4 0.0	7.0 -1.7				
				59 52	All Years All Years	-0.8 0.0	2.5	0.0	0.0	0.6	1.2	0.0	0.0				
Smolt Emigration	October	Monthly mean water	Feather River Confluence	52 55	All Years	0.0	0.6	0.0	0.0	0.6	6.2	0.0	0.0				
Omon Emigration	through May	temperatures (°F)	i eather River Connuence	59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				52	All Years	0.0	0.0	0.0	0.0	1.2	1.2	0.7	0.0				
			Freeport	55	All Years	0.0	-1.2	0.0	0.0	0.0	2.5	0.0	0.0				
			Посроп	59	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Table AQ-T-3-7f Green Sturgeon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in F	robability of	of Exceeda	nce under	Alternative	C relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	61	All Years	-1.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-1.8
	Eshaman.		Below Reswick Dam	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Adult Immigration	February through	Monthly mean water	Below Delevan Intake	61	All Years	-0.3	0.0	0.0		0.0	0.0	2.8	2.6	-0.5	0.0	0.0	0.1
and Holding	December	temperatures (°F)	Delow Delevan intake	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	-2.1	-5.9	-0.2	-3.0
	Boodingoi		Freeport	61	All Years	-0.7	0.0	0.0		0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0
			Пеероп	66	All Years	-0.2	0.0	0.0		0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2
			Below Keswick Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-2.0	-1.4
			Delow Reswick Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spawning and Egg	March through	Monthly mean water	Below Red Bluff Diversion Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-3.4	-3.3
Incubation	September	temperatures (°F)	Below Red Bidli Diversion Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Wilkins Slough	64	All Years						0.0	0.0	6.2	-1.1	-1.8	0.0	0.5
			Wikiris Slougii	68	All Years						0.0	0.0	0.0	-3.4	-6.2	-4.1	-0.8
			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	-2.5	-1.0
Juvenile Rearing	Year-round	Monthly mean water	Below Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-5.9	-0.2	-3.0
and Emigration	Emigration temperatures (°F)	Freeport	66	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2	

Table AQ-T-3-7g 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
			Hamilton City	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding		Monthly mean water temperatures (°F)	Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Holding through way	through May	temperatures ( F)	Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Hamilton City	61	All Years					0.0	0.0	0.0	1.0				
	February		riamilion oity	68	All Years					0.0	0.0	0.0	0.0		59 0		
Spawning and Egg		Monthly mean water temperatures (°F)		61	All Years					0.0	0.0	2.8	2.6				
Incubation	through May			68	All Years					0.0	0.0	0.0	0.0				
			Below the Feather River	61	All Years					0.0	0.0	3.1	0.0				
			Confluence	68	All Years					0.0	0.0	0.0	1.3				
			Below the Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-5.9	-0.2	-3.0
Juvenile Rearing	Year-round	Monthly mean water	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	-0.7	-3.4
and Emigration	rour round	temperatures (°F)	Freeport	66	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.2	0.0	0.0	-1.2

Table AQ-T-3-7h
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 Spawning	January		Below Keswick Dam	50-64	All Years				0.0	0.0	0.7	6.9	8.0	3.7	-0.2	2.0	
and Egg		through August Monthly mean water temperatures (°F)	Below Red Bluff Diversion Dam	50-64	All Years				0.0	0.0	3.6	-0.2	0.0	0.0	0.0	3.4	
Incubation			Below the Delevan Intake	50-64	All Years				0.0	-0.1	0.7	0.0	0.5	10.8	9.8	-1.9	
Ammocoete			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
Rearing and Emigration	Year-round	Monthly mean water	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
	real round	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-7.5	-0.1

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

Table AQ-T-3-7i 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
			Below Keswick Dam	50-64	All Years					0.0	0.7	6.9	0.8	3.7	-0.2		
Adult Spawning	February through July	Monthly mean water	Below Red Bluff Diversion Dam	50-64	All Years					0.0	3.6	-0.2	0.0	0.0	0.0		
and Egg Incubation		temperatures (°F)	Below the Delevan Intake	50-64	All Years					-0.1	0.7	0.0	0.5	10.8	9.8		
			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
Ammocoete Rearing and	Year-round	Monthly mean water	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
Emigration	real-loulid	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-7.5	-0.1

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

Table AQ-T-3-7j Hardhead in the Sacramento River

	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under	Alternative	C relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
		Monthly mean water temperatures (°F)	Below Keswick Dam	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-2.5
Adults and Other	Year-round		Below the Delevan Intake	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-11.2	-9.5	-3.9	-5.3
Lifestages			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	-1.4
			Below Keswick Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through	Monthly mean water	Below the Delevan Intake	59-64	All Years							6.2	1.5	10.8			
Addit Spawning	June	temperatures (°F)	Freeport	59-64	All Years							-0.7	-1.2	0.0			

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

Table AQ-T-3-7I Splittail in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		N	et Change ir	n Probability	y of Exceeda	ance under	Alternative (	C relative to	the No Acti	on Alternati	ve	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	February Month		Below the Delevan Intake	45-75	All Years					0.1	0.0	0.0	0.0				
Spawning thr	through May		Freeport	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-3-7m 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,			Below the Delevan Intake	59-68	All Years							6.2	1.0	0.0			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	59-68	All Years							0.7	-1.3	0.6			
Larvae, Fry, and		Monthly mean water	Below the Delevan Intake	61-71	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	2.8	2.6	-0.5	0.0	1.7	0.1
Juvenile Rearing and Emigration	Year-round	temperatures (°F)	Below the Feather River Confluence	61-71	All Years	-8.8	0.0	0.0	0.0	0.0	0.0	3.1	-1.3	3.7	15.6	6.3	2.2

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

Table AQ-T-3-7n American Shad in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under /	Alternative	C relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below Red Bluff Diversion Dam	60-70	All Years							0.0	-1.6	-0.7			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	60-70	All Years							2.7	0.5	0.0			
milian Realing			Freeport	60-70	All Years							0.8	-1.9	2.3			
Lanuas Env and			Below the Delevan Intake	63-77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	-4.9	-7.3	-1.0	5.1
Larvae, Fry, and Juvenile Rearing	Year-round	Monthly mean water temperatures (°F)	Below the Feather River Confluence	63-77	All Years	0.5	0.0	0.0	0.0	0.0	0.0	3.1	1.3	0.0	0.0	0.0	-0.7
and Emigration			Freeport	63-77	All Years	-4.4	0.0	0.0	0.0	0.0	0.0	1.3	0.6	0.0	0.6	0.0	-0.2

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

Table AQ-T-3-70 Largemouth Bass in the Sacramento River

	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	C relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	59-75	All Years						0.0	0.0	0.0	0.0			
Spawning	March through	Monthly mean water	Below the Delevan Intake	59-75	All Years						0.0	6.2	1.0	0.0			
Spawning	June	temperatures (°F)	Freeport	59-75	All Years						0.0	0.1	0.0	0.0			

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

Table AQ-T-3-7p
Delta Smelt in the Delta

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	C relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult	December through May	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years			0.0	0.0	0.0	0.0	0.1	0.5				
Spawning and Egg Incubation		Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years					0.0	0.0	0.1	0.5				
Larval	March through June	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years						0.0	0.1	0.5	0.0			
Juvenile	May through July	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years								0.5	0.0	0.0		

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







Table AQ-T-3-9a
Winter-run Chinook Salmon in the Sacramento River

ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range	Net 0	Change in F	Probability	of Exceeda	ance under A	Iternative I	D relative to	o the No A	ction Alter	native
			Description	Value	J	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			Below Keswick Dam	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	0.0	0.0	0.0	0.0	0.0	-1.6	0.1	-1.7		
			Below RBDD	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
dult Immigration	December	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
and Holding	through July	temperatures (°F)		60	All Years	0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0		
			Feather River Confluence	64	All Years	0.0	0.0	0.0	0.0	1.3	0.6	0.0	0.0		
				68	All Years	0.0	0.0	0.0	0.0	0.0	-0.4	-0.2	-1.0		
				60	All Years	0.0	0.0	0.0	-0.1	0.8	0.0	0.0	0.0		
			Freeport	64	All Years	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0		
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0		
				56	All Years					0.0	0.0	0.0	-3.5	-4.0	
			Below Keswick Dam	58	All Years					0.0	0.0	0.0	-1.0	-3.4	
				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	
				56	All Years					0.0	-3.2	-0.7	-1.9	1.9	
			Ball's Ferry	58	All Years					0.0	0.0	-0.3	-3.7	-5.1	
				60	All Years					0.0	0.0	0.0	-0.6	-3.6	
Spawning, egg ncubation, and	April through	Monthly mean water		62	All Years					0.0	0.0	0.0	0.0	-3.5	
initial rearing	August	temperatures (°F)		56	All Years					1.0	-12.2	3.7	3.4	-2.8	
			Jelly's Ferry	58	All Years					0.0	-3.0	0.7	-0.5	-7.7	
			22, 2 . 2,	60	All Years					0.0	0.0	0.0	-1.2	-4.0	
				62	All Years					0.0	0.0	0.0	0.0	-3.5	
				56	All Years					0.9	1.6	-2.2	0.2	-0.9	
			Bend Bridge	58	All Years					0.0	-3.7	-0.1	-1.7	-3.3	
				60	All Years					0.0	0.0	0.0	-1.2	-5.4	
				62	All Years					0.0	0.0	0.0	-0.4	-3.6	
				60	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.4	-2.
				63	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-3.0	-3.
			Below Keswick Dam	65	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-0.4	-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
				60	All Years	0.0	0.0	0.0	0.0	0.0			-1.7	-5.3	-6.
				63	All Years	0.0	0.0	0.0	0.0	0.0			-0.6	-3.6	-4.
			Below RBDD	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
uvenile Rearing	July through	Monthly mean water		75	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
and Emigration	April	temperatures (°F)		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	1.9			0.0	0.0	-0.
			Feather River Confluence	65	All Years	0.0	0.0	0.0	0.0	1.5			0.0	0.0	0.6
				68	All Years	0.0	0.0	0.0	0.0	0.0			-1.0	0.0	-3.
				70	All Years	0.0	0.0	0.0	0.0	0.0			-2.1	-3.7	-2.
				75	All Years	0.0	0.0	0.0	0.0	0.0			0.0	-1.2	0.0
				60	All Years	0.0	0.0	0.0	-0.1	0.8			0.0	0.0	0.
				63	All Years	0.0	0.0	0.0	0.0	2.5			0.0	0.0	-1.
			Freeport	65	All Years	0.0	0.0	0.0	0.0	-0.4			0.0	0.0	-0.
			•	68	All Years	0.0	0.0	0.0	0.0	0.0			0.0	0.0	-2.
				70	All Years	0.0	0.0	0.0	0.0	0.0			-3.9	2.1	-4.4
				75	All Years	0.0	0.0	0.0	0.0	0.0			-0.2	0.0	0.0

Table AQ-T-3-9b Spring-run Chinook Salmon in the Sacramento River

_ife Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Chai	nge in Prol	bability of	Exceedanc	e under A	ternative [	relative to	the No A	tion Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-2.6
			Below Keswick Dam	64	All Years					0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-3.1
				68	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Below RBDD	60 64	All Years All Years					0.0	0.0	0.0	-1.6 0.0	0.1	-1.7 0.0	-5.3 -3.5	-6.5 -5.9
A alcola Innoccione alcon	February	Manthhaman	Delow RDDD	68	All Years					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Immigration and Holding	through	Monthly mean water temperatures (°F)		60	All Years					0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0
_	September		Feather River Confluence	64	All Years					0.0	0.0	1.3	0.6	0.0	0.0	0.0	-0.6
				68	All Years					0.0	0.0	0.0	-0.4	-0.2	-1.0	0.0	-3.4
				60	All Years					0.0	-0.1	0.8	0.0	0.0	0.0	0.0	0.0
			Freeport	64	All Years					0.0	0.0	1.2	1.2	0.0	0.0	0.0	-1.8
				68	All Years					0.0	0.0	0.0	0.2	0.3	0.0	0.0	-2.5
				56	All Years	-9.2	0.3	0.0	0.0	0.0	0.0	0.0					-5.4
			Below Keswick Dam	58	All Years	-3.3	0.0	0.0	0.0	0.0	0.0	0.0					-1.4
				60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					-2.6
				62	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0					-4.4
				56	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	0.0					-12.8
			Ball's Ferry	58 60	All Years All Years	-2.9 -1.9	0.0	0.0	0.0	0.0	0.0	0.0				-	-6.4 -2.2
				60	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-2.2
				56	All Years	-6.6	0.0	0.0	0.0	0.0	0.0	1.0					-4.8
Spawning, egg	September	Monthly mean water		58	All Years	-3.5	0.0	0.0	0.0	0.0	0.0	0.0					-4.8
incubation, and initial rearing	through April	temperatures (°F)	Jelly's Ferry	60	All Years	-1.8	0.0	0.0	0.0	0.0	0.0	0.0					-0.4
initial rearing				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-5.0
				56	All Years	-7.9	0.0	0.0	0.0	0.0	0.0	0.9					0.4
			David Daidea	58	All Years	-3.6	0.0	0.0	0.0	0.0	0.0	0.0					-7.2
			Bend Bridge	60	All Years	-1.8	0.0	0.0	0.0	0.0	0.0	0.0					-4.3
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-4.7
				56	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	3.5					-1.9
			Red Bluff Diversion Dam	58	All Years	-4.0	0.0	0.0	0.0	0.0	0.0	0.0					-4.1
				60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0					-6.5
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-0.1
				60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-2.6
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	-3.3
			Below Keswick Dam	65 68	All Years 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	-2.5 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
Juvenile Rearing		Monthly mean water		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
and Emigration	Year-round	temperatures (°F)		60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.1	-1.7	-5.3	-6.5
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-3.6	-4.1
			0.1.0000	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-2.9
			Below RBDD	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
				60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.1			
				63	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	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Dain	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				70 75	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years All Years	0.0 -8.7	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0			
				63	All Years	1.3	0.0	0.0	0.0	0.0	0.0	1.9	1.3	0.0			
	October	Monthly mean water		65	All Years	0.1	0.0	0.0	0.0	0.0	0.0	1.5	-1.3	0.0			
Smolt Emigration	through June	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.2			
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2			
				75	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	-0.1	0.8	0.0	0.0			
				63	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0			
			Eroc	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0			
	1	1	Freeport	- 00	All Vooro	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	0.2	0.3			
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.7			

Table AQ-T-3-9c Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	D relative	to the No A	Action Alter	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.3	0.0	0.0							0.0	-3.4	-2.6
			Below Keswick Dam	64	All Years	0.0	0.0	0.0							0.0	-2.0	-3.1
				68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
				60	All Years	-1.7	0.0	0.0							-1.7	-5.3	-6.5
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0							0.0	-3.5	-5.9
Adult Immigration	July through	Monthly mean water		68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
and Holding	December	temperatures (°F)		60	All Years	-8.7	0.0	0.0							0.0	0.0	0.0
			Feather River Confluence	64	All Years	0.0	0.0	0.0							0.0	0.0	-0.6
				68	All Years	0.0	0.0	0.0							-1.0	0.0	-3.4
			_	60	All Years	-1.2	0.0	0.0							0.0	0.0	0.0
			Freeport	64	All Years	0.3	0.0	0.0							0.0	0.0	-1.8
				68	All Years	0.0	0.0	0.0							0.0	0.0	-2.5
				56	All Years	-9.2	0.3	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	58	All Years	-3.3	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					
				62	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0					
				56	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Ball's Ferry	58	All Years	-2.9	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					
				62	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Spawning, egg	0.441.44			56	All Years	-6.6	0.0	0.0	0.0	0.0	0.0	1.0					
incubation, and	October through March	Monthly mean water temperatures (°F)	Jelly's Ferry	58 60	All Years	-3.5 -1.8	0.0	0.0	0.0	0.0	0.0	0.0					
initial rearing	unough warch	temperatures ( F)		62	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				56	All Years	-7.9	0.0	0.0	0.0	0.0	0.0	0.0					
				58	All Years	-7.9	0.0	0.0	0.0	0.0	0.0	0.0					
			Bend Bridge	60	All Years	-1.8	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	-5.0	0.0	0.0	0.0	0.0	0.0	3.5					
				58	All Years	-4.0	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	60	All Years	-1.7	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					
				60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.1	-1.7	-5.3	-6.5
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-3.6	-4.1
			L	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-2.9
			Below Red Bluff Diversion 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
				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	-8.7	0.0	0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0
			ļ	63	All Years	1.3	0.0	0.0	0.0	0.0	0.0	1.9	1.3	0.0	0.0	0.0	-0.7
Juvenile Rearing	V	Monthly mean water	Faathar Divas Caathar	65	All Years	0.1	0.0	0.0	0.0	0.0	0.0	1.5	-1.3	0.0	0.0	0.0	0.6
and Emigration	Year-round	temperatures (°F)	Feather River Confluence	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.2	-1.0	0.0	-3.4
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-2.1	-3.7	-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	-1.2	0.0
				60	All Years	-1.2	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	-5.0	0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0	0.0	0.0	-1.0
			Erooport	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	0.0	0.0	0.0	-0.9
			Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	-2.5
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.7	-3.9	2.1	-4.4
	1			75	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

Table AQ-T-3-9d Late Fall-run Chinook Salmon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net Cha	ange in Pro	obability of	Exceedand	ce under Al	ternative D	relative to	the No Ac	tion Alterna	ative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Keswick Dam	64	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					
				60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0					
			Below Red Bluff Diversion Dam	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Adult Immigration	October	Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		60	All Years	-8.7	0.0	0.0	0.0	0.0	0.0	2.5					
			Feather River Confluence	64	All Years	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					
			F	60	All Years	-1.2	0.0	0.0	0.0	0.0	-0.1	0.8 1.2					
	1		Freeport	64 68	All Years All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0					
	+			56	All Years All Years	0.0	0.0	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				
			Below Keswick Dam	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				
				56	All Years				0.0	0.0	0.0	0.0	-3.2				
				58	All Years				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				
Spawning, egg	January	Monthly mean water	l l	62	All Years				0.0	0.0	0.0	0.0	0.0				
incubation, and	through May	temperatures (°F)		56	All Years				0.0	0.0	0.0	1.0	-12.2				
initial rearing			Inlinda Franci	58	All Years				0.0	0.0	0.0	0.0	-3.0				
			Jelly's Ferry	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				
				56	All Years				0.0	0.0	0.0	0.9	1.6				
			Bend Bridge	58	All Years				0.0	0.0	0.0	0.0	-3.7				
			Bend Bridge	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				
				60	All Years	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.1	-1.7	-5.3	-6.5
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-3.6	-4.1
			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	-3.5	-2.9
	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
				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 All Years	-8.7	0.0	0.0	0.0	0.0	0.0	2.5	0.1	0.0	0.0	0.0	0.0
to a self-re				63		1.3				0.0	0.0	1.9	1.3				-0.7
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Feather River Confluence	65 68	All Years	0.1	0.0	0.0	0.0	0.0	0.0	1.5 0.0	-1.3 -0.4	0.0 -0.2	0.0 -1.0	0.0	0.6 -3.4
and Emigration	1	tomperatures ( F)	j	70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.0 -2.1	0.0 -3.7	-3.4
			[	75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	0.0
	1			60	All Years	-1.2	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	-5.0	0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0	0.0	0.0	-1.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	-0.9
	1		Freeport	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	-2.5
	1			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.7	-3.9	2.1	-4.4
				75	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

Table AQ-T-3-9e Steelhead in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	D relative	to the No A	Action Alte	rnative	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	-5.9	-5.7	1.1	0.0	0.0	0.0					-1.9	-5.6
			Below Keswick Dam	56	All Years	-9.2	0.3	0.0	0.0	0.0	0.0					-4.0	-5.4
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
				52	All Years	-0.8	-7.2	0.0	0.0	0.0	-0.4					0.0	0.0
			Below Red Bluff Diversion Dam	56	All Years	-5.0	0.0	0.0	0.0	0.0	0.0					0.9	-1.9
Adult Immigration		Monthly mean water		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0
and Holding	March	temperatures (°F)		52	All Years	0.0	2.5	0.0	0.0	1.9	1.2					0.0	0.0
			Feather River Confluence	56	All Years	0.0	-0.4	0.0	0.0	0.0	2.5					0.0	0.0
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0					-3.7	-2.5
			Formula	52	All Years	0.0	1.2	0.0	0.0	1.2	1.2					0.0	0.0
			Freeport	56	All Years	0.0	-0.2	0.0	0.0	0.0	1.2					0.0	0.0
				70 52	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	1,1				2.1	-4.4
C	December	Manthly man		52	All Years All Years			0.0	0.0	0.0	0.0	0.0					
Spawning and egg incubation	through April	Monthly mean water temperatures (°F)	Below Keswick Dam	57	All Years			0.0	0.0	0.0	0.0	0.0				1	
incubation	unough Apin	temperatures ( 1 )		60	All Years			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	-0.4	-2.5
				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
			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
				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	-1.7	-0.1
			D. W. F	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
			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
				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	-2.5	-0.8
Juvenile Rearing	Year-round	Monthly mean water	Jelly's Ferry	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
and Emigration	real-louliu	temperatures (°F)	Jelly's Pelly	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	-2.9	-1.1
			Bend Bridge	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
			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
				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	-3.5	-2.9
			Below Red Bluff Diversion 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
				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
			D. I. D. I DI "D"	52	All Years	-0.8	-7.2	0.0	0.0	0.0	-0.4	4.3	0.0				
			Below Red Bluff Diversion Dam	55	All Years	-11.4	0.0	0.0	0.0	0.0	0.0	3.7	4.2				
				59	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-3.0				
County Engineering	October	Monthly mean water	Foother Diver Conflue	52	All Years	0.0	2.5 0.6	0.0	0.0	1.9	1.2 5.0	0.0	0.0				
Smolt Emigration	through May	temperatures (°F)	Feather River Confluence	55	All Years			0.0	0.0	0.0	2.0	0.0	0.0				
				59 52	All Years	-0.9 0.0	0.0	0.0	0.0	0.0	0.0	-0.6 0.0	0.0				
			Freeport	52 55	All Years		1.2 -3.1		0.0	1.2	1.2 2.5	0.0	0.0				
	1		гіеероп	22	All Years	0.0 -1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Table AQ-T-3-9f Green Sturgeon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	Change in P	robability of	of Exceeda	nce under	Alternative	D relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	61	All Years	-1.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-4.0
	Fabruary.		Below Reswick Daili	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Adult Immigration	February through	Monthly mean water	Below Delevan Intake	61	All Years	-0.2	0.0	0.0		0.0	0.0	1.9	0.2	-0.4	0.0	0.0	1.8
and Holding	December	temperatures (°F)	Below Belevan Intake	66	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.9	-2.4	-0.5	-5.4
	Boodingoi		Freeport	61	All Years	-0.7	0.0	0.0		0.0	0.0	1.2	0.1	0.0	0.0	0.0	0.0
			Пеероп	66	All Years	0.1	0.0	0.0		0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-1.8
			Below Keswick Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-2.0	-3.1
			Delow Reswick Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spawning and Egg	March through	Monthly mean water	Below Red Bluff Diversion Dam	64	All Years						0.0	0.0	0.0	0.0	0.0	-3.5	-5.9
Incubation	September	temperatures (°F)	Below Red Blull Diversion Daili	68	All Years						0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Wilkins Slough	64	All Years						0.0	0.0	1.4	0.9	-1.3	0.0	0.6
			Wikiris Slougii	68	All Years						0.0	0.0	0.0	-1.7	-4.9	0.0	-0.3
luncaile Deceire		Manthhaman	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	-2.8	-1.0
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Below Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-2.4	-0.5	-5.4
and Emigration		temperatures (*F)	Freeport	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-1.8

Table AQ-T-3-9g White Sturgeon in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under	Alternative	D relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Hamilton City	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration		Monthly mean water temperatures (°F)	Below the Delevan Intake	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Holding	through May	temperatures (*F)	Freeport	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			Hamilton City	61	All Years					0.0	0.0	0.0	-0.8				
			Hamilton City	68	All Years					0.0	0.0	0.0	0.0				
Spawning and Egg	February	Monthly mean water	Below the Delevan Intake	61	All Years					0.0	0.0	1.9	0.2				
Incubation	through May	temperatures (°F)	Delow the Delevan Intake	68	All Years					0.0	0.0	0.0	0.0				
			Below the Feather River	61	All Years					0.0	0.0	0.6	0.1				
			Confluence	68	All Years					0.0	0.0	0.0	-0.4				
			Below the Delevan Intake	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-2.4	-0.5	-5.4
Juvenile Rearing	Year-round	Monthly mean water	Knights Landing	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-3.2	0.0	0.0	-1.4
and Emigration	Tour round	temperatures (°F)	Freeport	66	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-1.8

Table AQ-T-3-9h
Pacific Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Below Keswick Dam	50-64	All Years				0.0	0.0	0.3	6.1	0.1	2.7	0.1	2.0	
and Egg	through		Below Red Bluff Diversion Dam	50-64	All Years				0.0	0.0	4.2	-0.2	0.0	0.0	0.0	3.5	
Incubation	August	temperatures (°F)	Below the Delevan Intake	50-64	All Years				0.0	-0.1	0.5	0.0	1.0	-2.0	-0.7	-6.4	
Ammocoete			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
Rearing and	Year-round	Monthly mean water	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
Emigration	. ca. round	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.9	-5.0	0.0

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

Table AQ-T-3-9i River Lamprey in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability c	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	50-64	All Years					0.0	0.3	6.1	0.1	2.7	0.1		
Adult Spawning and Egg	February	Monthly mean water	Below Red Bluff Diversion Dam	50-64	All Years					0.0	4.2	-0.2	0.0	0.0	0.0		
Incubation	through July	temperatures (°F)	Below the Delevan Intake	50-64	All Years					-0.1	0.5	0.0	1.0	-2.0	-0.7		
			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
Ammocoete Rearing and	Year-round	Monthly mean water	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
Emigration	real-loulid	temperatures (°F)	Freeport	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-1.9	-5.0	0.0

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

Table AQ-T-3-9j Hardhead in the Sacramento River

	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under	Alternative	D relative	to the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-2.5
Adults and Other	Year-round	Monthly mean water	Below the Delevan Intake	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-5.0	-1.2	2.3	-4.9
Lifestages	rear-round	temperatures (°F)	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	-0.9
			Below Keswick Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through	Monthly mean water	Below the Delevan Intake	59-64	All Years							5.6	2.1	-2.0			
Addit Spawriing	June	temperatures (°F)	Freeport	59-64	All Years							-1.2	-1.2	0.0			

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

Table AQ-T-3-9l Splittail in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		N	et Change i	n Probability	y of Exceeda	ance under	Alternative I	O relative to	the No Action	on Alternati	ve	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	February	Monthly mean water	Below the Delevan Intake	45-75	All Years					0.2	0.0	0.0	0.0				
Spawning	through May	temperatures (°F)	Freeport	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-3-9m Striped Bass in the Sacramento River

Oli ipou Buoo																	
Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability o	of Exceeda	nce under	Alternative	D relative t	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below the Delevan Intake	59-68	All Years							5.6	1.1	0.0			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	59-68	All Years							-0.6	0.4	0.2			
Larvae, Fry, and		Monthly mean water	Below the Delevan Intake	61-71	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	1.9	0.2	-0.4	0.0	1.7	1.8
Juvenile Rearing and Emigration	Year-round	temperatures (°F)	Below the Feather River Confluence	61-71	All Years	-11.3	0.0	0.0	0.0	0.0	0.0	0.6	0.0	2.5	7.5	1.3	0.7

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

Table AQ-T-3-9n American Shad in the Sacramento River

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Alteri	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,			Below Red Bluff Diversion Dam	60-70	All Years							0.0	-1.6	0.1			
Embryo Incubation, and Initial Rearing	April through June	Monthly mean water temperatures (°F)	Below the Feather River Confluence	60-70	All Years							2.5	0.1	1.2			
milian Realing			Freeport	60-70	All Years							0.8	-0.2	1.7			
Lanca England			Below the Delevan Intake	63-77	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	7.2	0.1	1.1	4.1
Larvae, Fry, and Juvenile Rearing	Year-round	Monthly mean water temperatures (°F)	Below the Feather River Confluence	63-77	All Years	1.3	0.0	0.0	0.0	0.0	0.0	1.9	1.3	0.0	0.0	0.0	-0.7
and Emigration			Freeport	63-77	All Years	-5.0	0.0	0.0	0.0	0.0	0.0	2.5	0.6	0.0	0.4	0.0	-1.0

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

Table AQ-T-3-9o

## Largemouth Bass in the Sacramento River

	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Alterr	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below Keswick Dam	59-75	All Years						0.0	0.0	0.0	0.0			
Spawning	March through	Monthly mean water	Below the Delevan Intake	59-75	All Years						0.0	5.6	1.1	0.0			
Spawning	June	temperatures (°F)	Freeport	59-75	All Years						0.0	0.0	0.0	0.0			

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

Table AQ-T-3-9p
Delta Smelt in the Delta

Life Stage	Evaluation Period	Impact Indicator	Location	Criteria	Range		Net C	hange in P	robability of	of Exceeda	nce under /	Alternative	D relative t	o the No A	ction Alter	native	
			Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult	December through May	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years			0.0	0.0	0.0	0.0	0.0	-0.2				
Spawning and Egg Incubation	February through May	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years					0.0	0.0	0.0	-0.2				
Larval	March through June	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years						0.0	0.0	-0.2	-0.3			
Juvenile	May through July	Monthly mean water temperatures (°F)	Sacramento River at Freeport	59-68	All Years								-0.2	-0.3	0.0		

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



Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
Feather River







Table AQ-T-4-3a Spring-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria			N	et Change i	n Probabilit	y of Exceeda	ance under	Alternative A	A relative to	the No Action	on Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	-1.0					0.0	0.0	0.0	0.0	0.0	-3.7	0.0
			Barrier Dam	64	All Years	0.0					0.0	0.0	0.0	0.0	0.1	2.2	0.0
				68	All Years	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Immigration	March through	Monthly Mean Water	Below the Thermalito Afterbay	60	All Years	-1.9					0.0	1.3	-1.2	0.0	0.0	0.0	0.6
and Holding	October	Temperatures (°F)	Outlet	64	All Years	0.0					0.0	0.0	-1.3	1.4	0.0	0.0	5.0
				68	All Years	0.0					0.0	0.0	0.0	1.3	1.2	-4.2	-1.2
			Manualta of Albanda and Espain and Bissan	60 64	All Years	3.1					0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	68	All Years All Years	-0.4 0.0					0.0	1.3 0.0	0.6	0.0	0.0	0.0	0.0 -3.3
				56	All Years	-1.6	-1.9	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	-3.8
			Low Flow Channel below the Fish	58	All Years	-0.4	0.0	0.0	0.0	0.0	0.0	0.0					0.1
A shalk On according			Barrier Dam	60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Adult Spawning and Embryo	September	Monthly Mean Water		62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Incubation	through April	Temperatures (°F)		56	All Years	0.0	0.0	0.0	0.0	0.0	-2.0	0.6					0.0
			Below the Thermalito Afterbay Outlet	58 60	All Years All Years	6.2 -1.9	0.0	0.0	0.0	0.0	0.0	-2.5 1.3					0.0
			Outlet	62	All Years	-1.5	0.0	0.0	0.0	0.0	0.0	0.0					-6.3
				60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	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	3.4	0.0
			Low Flow Channel below the Fish	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
			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
				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
Juvenile Rearing	Year-round	Monthly Mean Water		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
and Emigration		Temperatures (°F)		60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	1.3	-1.2	0.0	0.0	0.0	0.6
				63	All Years	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.1	0.0	0.0	0.9
			Below the Thermalito Afterbay	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-0.6
			Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	-4.2	-1.2
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-2.4	7.5	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	0.2	0.0
				60 63	All Years All Years	-1.0 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Low Flow Channel below the Fish	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dam	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			
				60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	1.3	-1.2	0.0			
	October	Monthly Mean Water	Below the Thermalito Afterbay	63 65	All Years All Years	-0.7 0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6 -3.8	0.1			
Smolt Emigration t	through June	Temperatures (°F)	Outlet	68	All Years	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	-0.5			
	1			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1			60	All Years	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1			63 65	All Years All Years	1.2 -0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1		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			
	1			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7			

Table AQ-T-4-3b Fall-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	in Probabilit	y of Exceeda	ance under	Alternative A	relative to	the No Acti	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	-1.0	0.0	0.0							0.0	-3.7	0.0
			Barrier Dam	64	All Years	0.0	0.0	0.0							0.1	2.2	0.0
				68 60	All Years All Years	0.0 -1.9	0.0	0.0							0.0	0.0	0.0
Adult Immigration	July through	Monthly Mean Water	Below the Thermalito Afterbay	64	All Years	0.0	0.0	0.0							0.0	0.0	5.0
and Holding	December	Temperatures (°F)	Outlet	68	All Years	0.0	0.0	0.0							1.2	-4.2	-1.2
				60	All Years	3.1	0.0	0.0							0.0	0.0	0.0
			Mouth of the Lower Feather River	64	All Years	-0.4	0.0	0.0							0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0							0.0	0.0	-3.3
				56	All Years	-1.6	-1.9	0.0									
			Low Flow Channel below the Fish	58	All Years	-0.4	0.0	0.0									
	October		Barrier Dam	60	All Years	-1.0	0.0	0.0									
Adult Spawning	through	Monthly Mean Water Temperatures (°F)		62 56	All Years All Years	-0.3	0.0	0.0									
	December	remperatures ( F)	Below the Thermalito Afterbay	58	All Years	0.0 6.2	0.0	0.0									
			Outlet	60	All Years	-1.9	0.0	0.0									
			Callot	62	All Years	-1.5	0.0	0.0									
				56	All Years	-1.6	-1.9	0.0	0.0	0.0	0.0	0.0					
			Low Flow Channel below the Fish	58	All Years	-0.4	0.0	0.0	0.0	0.0	0.0	0.0					
			Barrier Dam	60	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	0.0					
Embryo Incubation	October	Monthly Mean Water		62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					
Embryo modbation	through April	Temperatures (°F)		56	All Years	0.0	0.0	0.0	0.0	0.0	-2.0	0.6					
			Below the Thermalito Afterbay	58	All Years	6.2	0.0	0.0	0.0	0.0	0.0	-2.5					
			Outlet	60	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	1.3					
				62 60	All Years All Years	-1.5	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			
			Low Flow Channel below the Fish	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dam	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			
				60	All Years		0.0	0.0	0.0	0.0	0.0	1.3	-1.2	0.0			
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.1			
Juvenile Rearing	November	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
and Emigration	through June	Temperatures (°F)	Outlet	68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3			
				70 75	All Years All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5			
				75 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			
			Mouth of the Lower Feather River	68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0			
ĺ				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2			
				75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7			

Table AQ-T-4-3c Steelhead in the Lower Feather River

	Evaluation		Location	Criteria	_		1	let Change i	n Probabilit	y of Exceeda	ance under	Alternative	A relative to	the No Action	on Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				52	All Years	0.0	0.0	-1.9	0.0	0.0	2.3	3.8				0.0	0.0
			Low Flow Channel below the Fish Barrier Dam	56	All Years	-1.6	-1.9	0.0	0.0	0.0	0.0	0.0				0.0	-3.8
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
A -1 -14	A	Manualist Manage M/ - 1		52	All Years	0.0	0.0	0.0	0.0	-0.2	0.0	0.0				0.0	0.0
Adult Immigration and Holding	August through April	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	56	All Years	0.0	0.0	0.0	0.0	0.0	-2.0	0.6				0.0	0.0
and Holding	tillough Apill	remperatures ( 1 )		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				7.5	0.0
				52	All Years	0.0	0.0	0.0	0.0	-1.2	-1.3	0.0				0.0	0.0
			Mouth of the Lower Feather River	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				0.0	-5.0
				52	All Years			-1.9	0.0	0.0	2.3	3.8	0.0				
			Low Flow Channel below the Fish Barrier Dam	54	All Years			0.0	0.0	0.0	-0.4	-0.2	0.0				
Adult Spawning			Zon Flori Originioi Solon (no Flori Samo) Sam	57	All Years			0.0	0.0	0.0	0.0	0.0	1.2				
and Embryo	December	Monthly Mean Water		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	Temperatures (°F)		52	All Years			0.0	0.0	-0.2 0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	54 57	All Years All Years			0.0	0.0	0.0	0.0 -3.3	0.0	0.0				
				60	All Years			0.0	0.0	0.0	0.0	1.3	-1.2				
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	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
			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
			Zon Flori Originioi Solon (no Flori Samo) Sam	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
Juvenile Rearing		Monthly Mean Water		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
and Emigration	Year-round	Temperatures (°F)		63	All Years	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.1	0.0	0.0	0.9
· ·				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-0.6
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	-4.2	-1.2
			Bolow the Mormanie Autoreay Callet	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
				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	0.0
				52	All Years	0.0	0.0	-1.9	0.0	0.0	2.3	3.8	0.0	0.0	0.0	0.2	0.0
			Low Flow Channel below the Fish Barrier Dam	55	All Years	0.6	-3.3	0.0	0.0	0.0	-0.4	0.0	0.5				
			LOW I low Charmer below the Fish barrier barri	59	All Years	-0.8	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	-0.2	0.0	0.0	0.0				
Smalt Emigration	October	Monthly Mean Water	Below the Thermalito Afterbay Outlet	55	All Years	0.0	-2.5	0.0	0.0	0.0	-0.4	0.0	0.0				
Smort Emigration		Temperatures (°F)	below the mermalito Alterbay Outlet	59	All Years	-0.6	0.0	0.0	0.0	0.0			0.0				
				59	All Years	0.0	0.0	0.0	0.0	-1.2	0.0	-0.1 0.0					
			Mouth of the Lower Feather River	55		0.0			0.0		-1.3 -2.5		0.0				
			would of the Lower Feather River		All Years		1.3	0.0		0.0		0.0	0.0				
				59	All Years	0.3	0.0	0.0	0.0	0.0	-0.1	0.0	0.0				

Table AQ-T-4-3d
Green Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria	_		1	let Change i	n Probabilit	y of Exceed	ance under	Alternative A	A relative to	the No Actio	n Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	-6.8	0.0
			Low Flow Channel below the Fish Barrier Dam	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.1	2.2	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
A dult Immigration	February	Monthly Moon Water		61	All Years	1.2	0.0	0.0		0.0	0.0	1.1	-1.3	0.0	0.0	0.0	0.6
Adult Immigration and Holding	through	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	5.0
	December Temperatures (1)		68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	1.3	1.2	-4.2	-1.2	
			61	All Years	2.5	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	-0.4	0.0	0.0		0.0	0.0	1.3	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	0.0	0.0	0.0	-3.3	
Adult Spawning and Embryo	March through	Monthly Mean Water	Below the Thermalito Afterbay Outlet	64	All Years						0.0	0.0	-1.3	1.4	0.0	0.0	5.0
Incubation	August	Temperatures (°F)	below the mermano raterbay outer	68	All Years						0.0	0.0	0.0	1.3	1.2	-4.2	
			Below the Thermalito Afterbay Outlet	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.4	0.0	0.0	5.0
Juvenile Rearing	Wenile Rearing Vegr-round Monthly Mean Water	Delow the Mermanto Alterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	5.0	0.0	0.0	1.3	
Jan anning Trouming		Temperatures (°F)	Mouth of the Lower Feather River	64	All Years	-0.4	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
			66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	0.0	0.0	0.0	0.0	
Juvenile	May through	Monthly Mean Water	Below the Thermalito Afterbay Outlet	66	All Years								-0.4	5.0	0.0	0.0	1.3
Emigration	September	Temperatures (°F)	Mouth of the Lower Feather River	66	All Years								1.2	0.0	0.0	0.0	0.0

Table AQ-T-4-3e White Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceed	ance under	Alternative A	A relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below the Fish Barrier Dam	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding	November through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and molaing	unough may	temperatures ( 1 )	Mouth of the Feather River	77	All Years		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				
Spawning and Egg Incubation	February through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	1.1	-1.3				
incubation	tillough May	temperatures (1)	Mouth of the Feather River	61	All Years					0.0	0.0	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
Juvenile Rearing and Emigration	Year-round	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	5.0	0.0	0.0	1.3
			Mouth of the Feather River	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	0.0	0.0	0.0	0.0

Table AQ-T-4-3f
Pacific Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceed	ance under	Alternative A	A relative to	the No Action	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Low Flow Channel below the Fish Barrier Dam	50-64	All Years				-1.2	-1.3	-4.0	0.0	0.0	0.0	-0.1	-2.2	
and Egg	and Egg through	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	50-64	All Years				0.0	2.5	-0.1	0.0	1.3	-1.4	0.0	0.0	
	Incubation August		Mouth of the Lower Feather River	50-64	All Years				0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0	
Ammocoete		Monthly mean water	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
Rearing and Emigration	Year-round	temperatures (°F)	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	0.1	1.3	2.5	-2.1	0.6

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

Table AQ-T-4-3g River Lamprey in the Lower Feather River

Life Stage	Evaluation	Impact Indicator	Location	Criteria			Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
	Period		Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Adult Spawning and Egg Incubation	February through July	Monthly mean water temperatures (deg. F)	Low Flow Channel below the Fish Barrier Dam	50-64	All Years					-1.3	-4.0	0.0	0.0	0.0	-0.1					
			Below the Thermalito Afterbay Outlet	50-64	All Years					2.5	-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					
			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			
Ammocoete Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	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	0.1	1.3	2.5	-2.1	0.6			

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

Table AQ-T-4-3h Hardhead in the Lower Feather River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	Range	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
	Period		Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adults and Juveniles	Year-round	Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	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		
			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	-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	0.4		
		Monthly mean water temperatures (°F)	Low Flow Channel below the Fish Barrier Dam	59-64	All Years							0.0	0.0	0.0					
Adult Spawning	April through June		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					

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

Table AQ-T-4-3j

## Splittail in the Lower Feather River

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

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

Table AQ-T-4-3k Striped Bass in the Lower Feather River

Life Stage	Evaluation	Impact Indicator	Location	Criteria	_	Net Change in Probability of Exceedance under Alternative A relative to the No Action Alternative													
	Period		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 water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-68	All Years							-0.1	0.0	-1.3					
			Mouth of the Feather River	59-68	All Years							0.0	-0.6	0.0					
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)		61-71	All Years	1.2	0.0	0.0	0.0	0.0	0.0	1.1	-1.3	-0.9	-0.1	-5.0	0.6		
			Mouth of the Feather River	61-71	All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	-1.3	2.5	1.8		

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

Table AQ-T-4-3I
American Shad in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative A	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo	April through	Monthly mean water	Below the Thermalito Afterbay Outlet	60-70	All Years							1.3	-1.2	0.5			
Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the Feather River	60-70	All Years							0.0	0.0	1.2			
Larvae, Fry, and Juvenile Rearing	July through	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	63-77	All Years	-0.7	0.0								0.0	0.0	0.9
and Emigration		temperatures (*F)	Mouth of the Feather River	63-77	All Years	1.2	0.0								-1.1	0.0	-0.6

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

Table AQ-T-4-3m

# Largemouth Bass in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under A	Alternative A	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Coouring	March through	Monthly mean water	Below the Thermalito Afterbay Outlet	59-75	All Years						0.0	-0.1	0.0	0.0			
Spawning	June	temperatures (°F)	Mouth of the Feather River	59-75	All Years						-0.1	0.0	0.0	0.7			

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





Table AQ-T-4-5a Spring-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative E	relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	0.3					0.0	0.0	0.0	0.0	0.0	-8.7	0.0
			Barrier Dam	64	All Years	0.0					0.0	0.0	0.0	0.0	-0.6	0.9	0.0
				68	All Years	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Immigration	March through	Monthly Mean Water	Below the Thermalito Afterbay	60	All Years	-1.3					0.0	1.3	0.0	0.0	0.0	0.0	2.5
and Holding	October	Temperatures (°F)	Outlet	64 68	All Years	0.0					0.0	0.0	-1.3 0.0	1.7	0.0 3.7	0.0	4.2 -1.2
				60	All Years All Years	3.8					0.0	0.0	0.0	0.0	0.0	-5.9 0.0	0.0
			Mouth of the Lower Feather River	64	All Years	-1.0					0.0	1.3	0.0	0.0	0.0	0.0	0.0
			Wodar of the Lower F cather river	68	All Years	0.0					0.0	0.0	0.6	0.0	0.0	0.0	-4.2
				56	All Years	-2.7	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.3
			Low Flow Channel below the Fish	58	All Years	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0					0.3
Adult Spawning			Barrier Dam	60	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0					0.0
and Embryo	September through April	Monthly Mean Water Temperatures (°F)		62 56	All Years All Years	-0.3 0.0	0.0 -0.5	0.0	0.0	0.0	0.0 -1.1	0.0					0.0
Incubation	tillough Apill	Temperatures (1)	Below the Thermalito Afterbay	58	All Years	2.5	0.0	0.0	0.0	0.0	0.0	-2.5					0.0
			Outlet	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3					2.5
				62	All Years	0.9	0.0	0.0	0.0	0.0	0.0	0.0					-8.1
				60	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.7	0.0
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	1.9	0.0
			Low Flow Channel below the Fish	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
			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
				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
Juvenile Rearing	Year-round	Monthly Mean Water		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
and Emigration	real round	Temperatures (°F)		60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	2.5
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.2	0.0	0.0	0.7
			Below the Thermalito Afterbay	65	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
			Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.7	-5.9	-1.2
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	5.0	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	0.4	0.0
				60	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
ĺ				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Low Flow Channel below the Fish	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dam	68 70	All Years 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			
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0			
	1			63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.2			
Smolt Emigration	October	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
=	through June	Temperatures (°F)	Outlet	68 70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3 0.6			
				75	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			
	1			63	All Years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Ī	1		Mouth of the Lower Feather River	65 68	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0 -2.5			
İ				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5			

Table AQ-T-4-5b Fall-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria			N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative E	3 relative to	the No Acti	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	0.3	0.0	0.0							0.0	-8.7	0.0
			Barrier Dam	64	All Years	0.0	0.0	0.0							-0.6	0.9	0.0
			Barrior Barri	68	All Years	0.0	0.0	0.0							0.0	0.0	0.0
Adult Immigration	July through	Monthly Mean Water	Below the Thermalito Afterbay	60	All Years	-1.3	0.0	0.0							0.0	0.0	2.5
and Holding	December	Temperatures (°F)	Outlet	64	All Years	0.0	0.0	0.0							0.0	0.0	4.2
=				68	All Years	0.0	0.0	0.0							3.7	-5.9	-1.2
			Mouth of the Laurer Feether Diver	60	All Years	3.8 -1.0	0.0	0.0							0.0	0.0	0.0
			Mouth of the Lower Feather River	64 68	All Years All Years	0.0	0.0	0.0							0.0	0.0	0.0 -4.2
				56	All Years	-2.7	-1.8	0.0							0.0	0.0	-4.2
			Low Flow Channel below the Fish	58	All Years	-2.7	-0.3	0.0									
			Barrier Dam	60	All Years	0.3	0.0	0.0									_
	October	Monthly Mean Water	545	62	All Years	-0.3	0.0	0.0									
Adult Spawning	through	Temperatures (°F)		56	All Years	0.0	-0.5	0.0									
	December	, ,	Below the Thermalito Afterbay	58	All Years	2.5	0.0	0.0									
			Outlet	60	All Years	-1.3	0.0	0.0									
				62	All Years	0.9	0.0	0.0									
				56	All Years	-2.7	-1.8	0.0	0.0	0.0	0.0	0.0					
			Low Flow Channel below the Fish	58	All Years	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0					
			Barrier Dam	60	All Years	0.3	0.0	0.0	0.0	0.0	0.0	0.0					
Embryo Incubation	October	Monthly Mean Water		62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					
Linbi yo incaballon	through April	Temperatures (°F)		56	All Years	0.0	-0.5	0.0	0.0	0.0	-1.1	0.6					
			Below the Thermalito Afterbay	58	All Years	2.5	0.0	0.0	0.0	0.0	0.0	-2.5					
			Outlet	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3					
				62	All Years	0.9	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			_
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Low Flow Channel below the Fish Barrier Dam	65 68	All Years All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dairi	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			
				60	All Years		0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0			
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.2			
Juvenile Rearing	November	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
and Emigration	through June	Temperatures (°F)	Outlet	68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3			
<u> </u>		,		70	All Years		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			
				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			
			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			
			would of the Lower Feather River	68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0			
				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5			
	l			75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5			

Table AQ-T-4-5c Steelhead in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative I	3 relative to	the No Action	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	0.0	1.2	-1.9	0.0	0.0	1.7	5.0				0.0	0.0
			Low Flow Channel below the Fish Barrier Dam	56	All Years	-2.7	-1.8	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	0.0				0.0	0.0
A shalk last as is used as	A	Ma		52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
Adult Immigration and Holding	August through April	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	56	All Years	0.0	-0.5	0.0	0.0	0.0	-1.1	0.6				0.0	0.0
and molding	tillough Apill	remperatures ( 1 )		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				5.0	0.0
				52	All Years	0.0	0.0	0.0	0.0	-0.4	-1.3	0.0				0.0	0.0
			Mouth of the Lower Feather River	56	All Years	0.0	0.4	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	-3.5
				52	All Years			-1.9	0.0	0.0	1.7	5.0	0.0				
			Low Flow Channel below the Fish Barrier Dam	54	All Years			0.0	0.0	0.0	-0.4	0.0	0.0				
Adult Spawning			200 Figure Charmon Scient and Figure Samon Samon	57	All Years			0.0	0.0	0.0	0.0	0.0	1.2				
and Embryo	December	Monthly Mean Water		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	Temperatures (°F)		52	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
			Below the Thermalito Afterbay Outlet	54 57	All Years All Years			0.0	0.0	0.0	-1.2 -3.3	0.0 -1.2	0.0				
				60	All Years			0.0	0.0	0.0	0.0	1.3	0.0				
				63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	1.9	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
			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
			200 From Criatinos Scient and From Samor Sam	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
Juvenile Rearing		Monthly Mean Water		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
and Emigration	Year-round	Temperatures (°F)		63	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.2	0.0	0.0	0.7
· ·		, , ,		65	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
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.7	-5.9	-1.2
			Bolon the Mornante Antorony Collect	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	0.4	0.0
				52	All Years	0.0	1.2	-1.9	0.0	0.0	1.7	5.0	0.0	0.0	0.0	0.1	0.0
			Low Flow Channel below the Fish Barrier Dam	55	All Years	0.0	-3.2	0.0	0.0	0.0	-0.4	0.0	0.5				
			Low Flow Charmer below the Fish barrier barri	59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				52	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Smolt Emigration	October	Monthly Mean Water	Below the Thermalito Afterbay Outlet	55	All Years	0.0	-3.7	0.0	0.0	0.0	0.0	0.0	0.0				
Silion Emigration	through May	Temperatures (°F)	below the Thermalito Alterbay Outlet														
				59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0				
			Mouth of the Lower Feether Pirra	52	All Years	0.0	0.0	0.0	0.0	-0.4	-1.3	0.0	0.0				
			Mouth of the Lower Feather River	55	All Years	0.0	0.0	0.0	0.0	0.0	-2.5	0.0	0.0				
				59	All Years	0.8	0.0	0.0	0.0	0.0	-0.1	0.0	0.0				

Table AQ-T-4-5d Green Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	nce under	Alternative E	3 relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	5.0	-10.6	0.0
			Low Flow Channel below the Fish Barrier Dam	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	-0.6	0.9	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
A state to see in a state of	February	Ma		61	All Years	1.7	0.0	0.0		0.0	0.0	1.0	-2.5	0.0	0.0	0.0	1.9
Adult Immigration and Holding	tnrougn	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-1.3	1.7	0.0	0.0	4.2
and moraling	December	romporataroo ( 1 )		68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	1.3	3.7	-5.9	-1.2
				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
		Mouth of the Lower Feather River	64	All Years	-1.0	0.0	0.0		0.0	0.0	1.3	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	0.0	0.0	0.0	-4.2
Adult Spawning	March through	Monthly Mean Water	Deleve the Theory Site Affects on Outlet	64	All Years						0.0	0.0	-1.3	1.7	0.0	0.0	4.2
and Embryo Incubation	August	Temperatures (°F)	Below the Thermalito Afterbay Outlet	68	All Years						0.0	0.0	0.0	1.3	3.7	-5.9	
			Below the Thermalito Afterbay Outlet	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	4.2
Juvenile Rearing	Year-round	Monthly Mean Water	Bolow the Thermanie Atterbay Gutet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.6	0.0	-1.3	0.3
caraa ricaring		Temperatures (°F)	Mouth of the Lower Feather River	64	All Years	-1.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0.0	0.0	0.0	2.5
Juvenile	May through	Monthly Mean Water	Below the Thermalito Afterbay Outlet	66	All Years								0.3	4.6	0.0	-1.3	0.3
Emigration	September	Temperatures (°F)	Mouth of the Lower Feather River	66	All Years								1.2	0.0	0.0	0.0	2.5

Table AQ-T-4-5e White Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria			N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative E	relative to	the No Actio	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below the Fish Barrier Dam	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding	November through May	Monthly mean water temperatures (°F)	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				
			Below the Fish Barrier Dam	61	All Years					0.0	0.0	0.0	0.0				
Spawning and Egg	February through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	1.0	-2.5				
incubation	tillough May	temperatures (1)	Mouth of the Feather River	61	All Years					0.0	0.0	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
Juvenile Rearing and Emigration	Year-round	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	0.3	4.6	0.0	-1.3	0.3
			Mouth of the Feather River	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0.0	0.0	0.0	2.5

Table AQ-T-4-5f
Pacific Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	y of Exceeda	ance under	Alternative E	3 relative to	the No Actio	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Low Flow Channel below the Fish Barrier Dam	50-64	All Years				-1.8	0.0	-2.8	0.0	0.0	0.0	0.6	-0.9	
and Egg	through	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	50-64	All Years				0.0	1.3	-0.4	0.0	1.3	-1.7	0.0	0.0	
	Incubation August		Mouth of the Lower Feather River	50-64	All Years				0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0	
Ammocoete		Monthly mean water	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
Rearing and Emigration	Year-round	temperatures (°F)	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
			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	-4.6	0.6

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

Table AQ-T-4-5g River Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	Net Change i	n Probabilit	y of Exceeda	ance under	Alternative E	3 relative to	the No Actio	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning		Monthly mean water	Low Flow Channel below the Fish Barrier Dam	50-64	All Years					0.0	-2.8	0.0	0.0	0.0	0.6		
and Egg		temperatures (deg. F)	Below the Thermalito Afterbay Outlet	50-64	All Years					1.3	-0.4	0.0	1.3	-1.7	0.0		
		(deg. i )	Mouth of the Lower Feather River	50-64	All Years					-1.3	0.0	-1.3	0.0	0.0	0.0		
Ammocoete			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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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
Emigration		, , ,	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	-4.6	0.6

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

Table AQ-T-4-5h Hardhead in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative E	3 relative to	the No Action	on Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish Barrier Dam	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
Adults and Juveniles	Year-round	Monthly mean water temperatures (°F)	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
			Low Flow Channel below the Fish Barrier Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	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			

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

Table AQ-T-4-5j

## Splittail in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	of Exceeda	nce under A	Alternative B	relative to	the No Actio	n Alternativ	е	
Life Stage	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)	Mouth of the Feather River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-4-5k Striped Bass in the Lower Feather River

	Evaluation		Location	Criteria	_		N	et Change i	n Probabilit	y of Exceeda	ance under	Alternative E	3 relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo	, ,		Below the Thermalito Afterbay Outlet	59-68	All Years							-0.1	0.0	-1.3			
Incubation, and Initial Rearing	yo April through Monthly mean wa n, and June temperatures (°	temperatures (°F)	Mouth of the Feather River	59-68	All Years							0.0	-0.6	0.0			
Larvae, Fry, and Juvenile Rearing	luvenile Rearing Vear-round	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	1.0	-2.5	-0.9	-0.8	-5.0	1.9
and Emigration		, , ,	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	-1.7	-1.9	1.3	4.2

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

Table AQ-T-4-5I
American Shad in the Lower Feather River

			<del>-</del> -														
	Evaluation		Location	Criteria	_		N	et Change i	n Probabilit	y of Exceeda	nce under	Alternative E	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo	April through	Monthly mean water	Below the Thermalito Afterbay Outlet	60-70	All Years							1.3	0.0	-0.6			
Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the Feather River	60-70	All Years							0.0	0.0	2.5			
Larvae, Fry, and Juvenile Rearing	July through November	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	63-77	All Years	0.0	0.0								0.0	0.0	0.7
and Emigration	November	temperatures (*F)	Mouth of the Feather River	63-77	All Years	0.6	0.0								-1.1	0.0	-0.6

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

Table AQ-T-4-5m

## Largemouth Bass in the Lower Feather River

1	Evaluation		Location	Criteria	_		N	et Change i	n Probabilit	y of Exceeda	ance under A	Alternative E	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Chausina	March through	Monthly mean water	Below the Thermalito Afterbay Outlet	59-75	All Years						0.0	-0.1	0.0	0.0			
Spawning	June	temperatures (°F)	Mouth of the Feather River	59-75	All Years						-0.1	0.0	0.0	-0.5			

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





Table AQ-T-4-7a
Spring-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria			N	et Change i	n Probabilit	y of Exceeda	ance under	Alternative C	relative to	the No Actio	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	-0.6					0.0	0.0	0.0	0.0	0.0	-6.2	0.0
			Barrier Dam	64	All Years	0.0					0.0	0.0	0.0	0.0	-0.6	2.8	0.0
				68	All Years	0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adult Immigration	March through	Monthly Mean Water	Below the Thermalito Afterbay	60	All Years	-0.6					0.0	0.0	0.0	0.0	0.0	0.0	2.5
and Holding	October	Temperatures (°F)	Outlet	64	All Years	0.0					0.0	0.0	-1.3	1.4	0.0	0.0	2.9
				68	All Years	0.0					0.0	0.0	0.0	1.3	2.5	-8.0	-1.2
				60	All Years	4.4					0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Mouth of the Lower Feather River	64 68	All Years	-0.1					0.0	1.3 0.0	0.0	0.0	0.0	0.0	0.0 -4.4
				56	All Years All Years	0.0 -0.3	-1.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.2	0.0	0.0	-4.4
			Low Flow Channel below the Fish	58	All Years	-1.0	0.3	0.0	0.0	0.0	0.0	0.0					0.6
			Barrier Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Adult Spawning and Embryo	September	Monthly Mean Water		62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Incubation	through April	Temperatures (°F)		56	All Years	-1.0	0.5	0.0	0.0	0.0	-1.0	0.6					0.0
			Below the Thermalito Afterbay	58	All Years	3.7	0.0	0.0	0.0	0.0	0.0	-2.5					0.0
			Outlet	60 62	All Years All Years	-0.6 -0.2	0.0	0.0	0.0	0.0	0.0	0.0					2.5 -8.1
				60	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.2	0.0
				63 65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.6 0.0	0.0
			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
				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
Juvenile Rearing		Monthly Mean Water		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
and Emigration	Year-round	Temperatures (°F)		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	2.5
				63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1	0.0	0.0	-0.9
			Below the Thermalito Afterbay	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-2.5
			Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.5	-8.0	-1.2
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-1.2	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	-0.5	0.0
				60	All Years	-0.6	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			
			Low Flow Channel below the Fish Barrier Dam	65 68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrer Barr	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			
				60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		L		63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1			
Smolt Emigration	October	Monthly Mean Water	Below the Thermalito Afterbay Outlet	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
	through June	Temperatures (°F)	Outlet	68 70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3 -0.5			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1		63	All Years	-0.6	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				68 70	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.2 -2.5			
							0.0	0.0						-95			

Table AQ-T-4-7b Fall-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	nce under	Alternative C	relative to	the No Acti	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish	60	All Years	-0.6	0.0	0.0							0.0	-6.2	0.0
			Barrier Dam	64	All Years	0.0	0.0	0.0							-0.6	2.8	0.0
				68 60	All Years All Years	0.0 -0.6	0.0	0.0							0.0	0.0	0.0 2.5
Adult Immigration	July through	Monthly Mean Water	Below the Thermalito Afterbay	64	All Years	0.0	0.0	0.0							0.0	0.0	2.5
and Holding	December	Temperatures (°F)	Outlet	68	All Years	0.0	0.0	0.0							2.5	-8.0	-1.2
				60	All Years	4.4	0.0	0.0							0.0	0.0	0.0
			Mouth of the Lower Feather River	64	All Years	-0.1	0.0	0.0							0.0	0.0	0.0
				68	All Years	0.0	0.0	0.0							0.0	0.0	-4.4
				56	All Years	-0.3	-1.0	0.0									
			Low Flow Channel below the Fish	58	All Years	-1.0	0.3	0.0									
	October		Barrier Dam	60	All Years	-0.6	0.0	0.0									
Adult Spawning	through	Monthly Mean Water Temperatures (°F)		62 56	All Years All Years	-0.3 -1.0	0.0	0.0									
	December	remperatures ( F)	Below the Thermalito Afterbay	58	All Years	3.7	0.0	0.0									
			Outlet	60	All Years	-0.6	0.0	0.0									
			Callot	62	All Years	-0.2	0.0	0.0									
				56	All Years	-0.3	-1.0	0.0	0.0	0.0	0.0	0.0					
			Low Flow Channel below the Fish	58	All Years	-1.0	0.3	0.0	0.0	0.0	0.0	0.0					
			Barrier Dam	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0					
Embryo Incubation	October	Monthly Mean Water		62	All Years	-0.3	0.0	0.0	0.0	0.0	0.0	0.0					
Embryo modbation	through April	Temperatures (°F)		56	All Years	-1.0	0.5	0.0	0.0	0.0	-1.0	0.6					
			Below the Thermalito Afterbay	58	All Years	3.7	0.0	0.0	0.0	0.0	0.0	-2.5					
			Outlet	60	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0					
				62 60	All Years All Years	-0.2	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			
			Low Flow Channel below the Fish	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dam	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			
				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	-1.9	0.1			
Juvenile Rearing	November	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
and Emigration	through June	Temperatures (°F)	Outlet	68	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3			
				70 75	All Years All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5			
				75 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			
			Mouth of the Lower Feather River	68	All Years		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	-2.5			
				75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7			

Table AQ-T-4-7c Steelhead in the Lower Feather River

	Evaluation		Location	Criteria			1	let Change i	n Probabilit	y of Exceeda	ance under A	Alternative C	c relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	0.0	1.2	-0.6	0.0	0.0	1.7	5.0				0.0	0.0
			Low Flow Channel below the Fish Barrier Dam	56	All Years	-0.3	-1.0	0.0	0.0	0.0	0.0	0.0				0.0	-6.7
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0
A state to the face of the state of		Manualist . Manual . Manual		52	All Years	0.0	0.0	0.0	0.0	-0.1	-1.7	0.0				0.0	0.0
Adult Immigration and Holding	August through April	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	56	All Years	-1.0	0.5	0.0	0.0	0.0	-1.0	0.6				0.0	0.0
and molding	tillough April	remperatures ( 1 )		70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0				6.3	0.0
				52	All Years	0.0	0.0	0.0	0.0	-0.4	0.0	0.0				0.0	0.0
			Mouth of the Lower Feather River	56	All Years	0.0	0.2	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	-3.1
				52	All Years			-0.6	0.0	0.0	1.7	5.0	0.0				
			Low Flow Channel below the Fish Barrier Dam	54	All Years			0.0	0.0	0.0	0.8	-0.2	0.0				
Adult Spawning			200 From Criatinos Scient the From Samer Same	57	All Years			0.0	0.0	0.0	0.0	0.0	1.2				
and Embryo	December	Monthly Mean Water		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	Temperatures (°F)		52	All Years			0.0	0.0	-0.1 0.0	-1.7	0.0	0.0				
			Below the Thermalito Afterbay Outlet	54 57	All Years All Years			0.0	0.0	0.0	-1.2 -2.1	0.0 -1.2	0.0				
				60	All Years			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	0.2	4.6	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
			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
			Low Flow Ghamler below the Fish Barrier Barrier	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
Juvenile Rearing		Monthly Mean Water		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
and Emigration	Year-round	Temperatures (°F)		63	All Years	0.5	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.1	0.0	0.0	-0.9
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-2.5
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.5	-8.0	-1.2
				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
				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	0.0
				52	All Years	0.0	1.2	-0.6	0.0	0.0	1.7	5.0	0.0				
			Low Flow Channel below the Fish Barrier Dam	55	All Years	1.2	-2.3	0.0	0.0	0.0	0.2	0.0	0.5				
				59	All Years	-0.7	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	-0.1	-1.7	0.0	0.0				
Smolt Emigration	October through May	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	55	All Years	0.0	-2.5	0.0	0.0	0.0	1.3	0.0	0.0				
	u rough May	remperatures (*F)		59	All Years	0.7	0.0	0.0	0.0	0.0	0.0	-0.1	0.0				
				52	All Years	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0				
	1		Mouth of the Lower Feather River	55	All Years	0.0	1.3	0.0	0.0	0.0	-3.1	0.0	0.0				
	1			59	All Years	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Table AQ-T-4-7d Green Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative C	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				61	All Years	-0.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	2.5	-8.1	0.0
			Low Flow Channel below the Fish Barrier Dam	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	-0.6	2.8	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
A al ala las assistantes	February	N. 4 Albert - N. 4 N. 4 - 4		61	All Years	1.2	0.0	0.0		0.0	0.0	1.1	-2.5	0.0	0.0	0.0	0.6
Adult Immigration and Holding	through	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	-1.3	1.4	0.0	0.0	2.9
	December	-		68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	1.3	2.5	-8.0	-1.2
				61	All Years	2.5	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	-0.1	0.0	0.0		0.0	0.0	1.3	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	-0.2	0.0	0.0	-4.4
Adult Spawning and Embryo		Monthly Mean Water	Below the Thermalito Afterbay Outlet	64	All Years						0.0	0.0	-1.3	1.4	0.0	0.0	2.9
Incubation	August	Temperatures (°F)		68	All Years						0.0	0.0	0.0	1.3	2.5	-8.0	
			Below the Thermalito Afterbay Outlet	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.4	0.0	0.0	2.9
Juvenile Rearing	Year-round	Monthly Mean Water	Delow the Thermanto Arterbay Oddet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	4.6	0.0	1.9	-1.2
our or morning	venile Rearing Year-round Temperatures (°F)	Mouth of the Lower Feather River	64	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	
				66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0.0	0.0	0.0	1.2
Juvenile	May through	Monthly Mean Water	Below the Thermalito Afterbay Outlet	66	All Years								-0.4	4.6	0.0	1.9	-1.2
Emigration	September	Temperatures (°F)	Mouth of the Lower Feather River	66	All Years								1.2	0.0	0.0	0.0	1.2

Table AQ-T-4-7e
White Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria			N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative C	relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below the Fish Barrier Dam	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding	November through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and Holaing	unough may	temperatures ( 1 )	Mouth of the Feather River	77	All Years		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				
Spawning and Egg Incubation	February through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	1.1	-2.5				
modbation	unough may	temperatures ( 1 )	Mouth of the Feather River	61	All Years					0.0	0.0	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
Juvenile Rearing and Emigration	Year-round	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	4.6	0.0	1.9	-1.2
			Mouth of the Feather River	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0.0	0.0	0.0	1.2

Table AQ-T-4-7f
Pacific Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	of Exceeda	ance under	Alternative C	relative to	the No Actio	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Low Flow Channel below the Fish Barrier Dam	50-64	All Years				-1.2	-2.5	-3.7	0.0	0.0	0.0	0.6	-2.8	
and Egg	through August	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	50-64	All Years				0.0	1.3	-0.4	0.0	1.3	-1.4	0.0	0.0	
	· ingust		Mouth of the Lower Feather River	50-64	All Years				0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0	
Ammocoete		Monthly mean water	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
Rearing and Emigration	Rearing and Year-round	temperatures (°F)	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	0.1	1.3	1.3	-3.3	-0.6

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

Table AQ-T-4-7g River Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	y of Exceeda	ance under	Alternative C	relative to	the No Actio	n Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning		Monthly mean water	Low Flow Channel below the Fish Barrier Dam	50-64	All Years					-2.5	-3.7	0.0	0.0	0.0	0.6		
and Egg	February through July	temperatures (deg. F)	Below the Thermalito Afterbay Outlet	50-64	All Years					1.3	-0.4	0.0	1.3	-1.4	0.0		
incubation		(deg. 1)	Mouth of the Lower Feather River	50-64	All Years					-1.3	0.0	-1.3	0.0	0.0	0.0		
Ammocoete			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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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
Emigration		,,	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	1.3	1.3	-3.3	-0.6

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

Table AQ-T-4-7h Hardhead in the Lower Feather River

	Evaluation		Location	Criteria	_		N	et Change i	n Probability	y of Exceeda	ance under	Alternative C	relative to	the No Action	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish Barrier Dam	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
Adults and Juveniles	Year-round	Monthly mean water temperatures (°F)	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	-2.5
			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
			Low Flow Channel below the Fish Barrier Dam	59-64	All Years							0.0	0.0	0.0			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	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			

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

Table AQ-T-4-7j

### Splittail in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	y of Exceeda	nce under A	Alternative C	relative to	the No Actio	n Alternativ	е	
Life Stage	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)	Mouth of the Feather River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-4-7k Striped Bass in the Lower Feather River

	Evaluation		Location	Criteria			N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative C	relative to	the No Actio	n Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo	, ,	Monthly mean water	Below the Thermalito Afterbay Outlet	59-68	All Years							-0.1	0.0	-1.3			
Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the Feather River	59-68	All Years							0.0	-0.6	0.2			
Larvae, Fry, and Juvenile Rearing	Year-round	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71	All Years	1.2	0.0	0.0	0.0	0.0	0.0	1.1	-2.5	-0.9	-0.8	-6.2	0.6
and Emigration	and Emigration temperatures	. , ,	Mouth of the Feather River	61-71	All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-1.3	2.5	4.1

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

Table AQ-T-4-7I
American Shad 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	April through	Monthly mean water	Below the Thermalito Afterbay Outlet	60-70	All Years							0.0	0.0	0.5				
	June	temperatures (°F)	Mouth of the Feather River	60-70	All Years							0.0	0.0	2.5				
Larvae, Fry, and Juvenile Rearing	July through November	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	63-77	All Years	0.5	0.0								0.0	0.0	-0.9	
and Emigration Nove	November		Mouth of the Feather River	63-77	All Years	-0.6	0.0								-0.7	1.2	-0.6	

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

Table AQ-T-4-7m

### Largemouth Bass in the Lower Feather River

	Evaluation		Location	Criteria	Range	Net Change in Probability of Exceedance under Alternative C relative to the No Action Alternative												
	Period	Impact Indicator	Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Coouring	March through	ugh Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-75	All Years						0.0	-0.1	0.0	0.0				
Spawning	Spawning June		Mouth of the Feather River	59-75	All Years						0.0	0.0	0.0	0.7				

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





Table AQ-T-4-9a Spring-run Chinook Salmon in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative D	relative to	the No Action	on Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	-5.0 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Sep
			Law Flaw Channel helew the Figh	60	All Years	-0.1					0.0	0.0	0.0	0.0	-1.0	-5.0	2.3
			Low Flow Channel below the Fish Barrier Dam	64	All Years	0.0					0.0	0.0	0.0	0.0	-0.6	0.4	0.0
			Barrior Barri	68	All Years	0.0					0.0	0.0	0.0	0.0	0.0		0.0
Adult Immigration	March through	Monthly Mean Water	Below the Thermalito Afterbay	60	All Years	-1.3					0.0	1.3	0.0	0.0	0.0		1.7
and Holding	October	Temperatures (°F)	Outlet	64	All Years	0.4					0.0	0.0	-1.3	1.7	0.0		7.9
-				68	All Years	0.0					0.0	0.0	0.0	2.5	6.2		-0.7
				60	All Years	2.5					0.0	0.0	0.0	0.0	0.0		0.0
			Mouth of the Lower Feather River	64	All Years	0.0					0.0	1.3	0.0	0.0	0.0		0.0
				68 56	All Years All Years	0.0 -2.7	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8 -6.3
			Low Flow Channel below the Fish	58	All Years	-2.7	-2.0	0.0	0.0	0.0	0.0	0.0					1.6
			Barrier Dam	60	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0					2.3
Adult Spawning and Embryo	September	Monthly Mean Water		62	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0					0.9
Incubation	through April	Temperatures (°F)		56	All Years	-0.4	-0.3	0.0	0.0	0.0	0.3	0.6					0.0
			Below the Thermalito Afterbay	58	All Years	3.7	0.2	0.0	0.0	0.0	0.0	-1.2					0.0
			Outlet	60 62	All Years All Years	-1.3 -0.2	0.0	0.0	0.0	0.0	0.0	1.3 0.0					1.7 -7.5
				60									0.0	0.0	4.0	5.0	
			Low Flow Channel below the Fish	-	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0		2.3
				63	All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7		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
			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	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
Juvenile Rearing	Year-round	Monthly Mean Water		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		0.0
and Emigration		Temperatures (°F)	Below the Thermalito Afterbay Outlet	60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0		1.7
				63	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.2	0.0		1.0
				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0		6.2
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	6.2		-0.7
				70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	1.5		0.0
				75 60	All Years All Years	0.0 -0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	0.0
				63	All Years	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Low Flow Channel below the Fish	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			Barrier Dam	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 60	All Years All Years	0.0 -1.3	0.0	0.0	0.0	0.0	0.0	0.0 1.3	0.0	0.0			
				63	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0			
0 "- "	October	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0			
Smolt Emigration	through June	Temperatures (°F)	Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5			
	1			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2			
	1			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1			60 63	All Years All Years	2.5 1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1			65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1		Mouth of the Lower Feather River	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	1			70	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2			
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6			

Table AQ-T-4-9b Fall-run Chinook Salmon in the Lower Feather River

	Evaluation	Impact Indicates	Location	Criteria	Range	Net Change in Probability of Exceedance under Alternative D relative to the No Action Alternative												
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
			Low Flow Channel below the Fish	60	All Years	-0.1	0.0	0.0							-1.0	-5.0	2.3	
			Barrier Dam	64	All Years	0.0	0.0	0.0							-0.6	0.4	0.0	
				68 60	All Years All Years	0.0 -1.3	0.0	0.0							0.0	0.0	0.0	
Adult Immigration	July through	Monthly Mean Water	Below the Thermalito Afterbay	64	All Years	0.4	0.0	0.0							0.0	0.0	7.9	
and Holding	December	Temperatures (°F)	Outlet	68	All Years	0.4	0.0	0.0							6.2	-5.5	-0.7	
			Mouth of the Lower Feather River	60	All Years	2.5	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	
				68	All Years	0.0	0.0	0.0							0.0	0.0	-2.8	
				56	All Years	-2.7	-2.0	0.0										
			Low Flow Channel below the Fish	58	All Years	-0.8	-0.5	0.0										
	October	ough Temperatures (°F)	Barrier Dam	60	All Years	-0.1	0.0	0.0										
Adult Spawning through				62	All Years	0.1	0.0	0.0										
	December		Below the Thermalito Afterbay Outlet	56	All Years	-0.4	-0.3	0.0										
				58	All Years	3.7	0.2	0.0										
				60 62	All Years All Years	-1.3 -0.2	0.0	0.0										
				56	All Years	-0.2	-2.0	0.0	0.0	0.0	0.0	0.0						
			Low Flow Channel below the Fish Barrier Dam	58	All Years	-0.8	-0.5	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						
	October	Monthly Mean Water		62	All Years	0.1	0.0	0.0	0.0	0.0	0.0	0.0						
Embryo Incubation	through April	Temperatures (°F)		56	All Years	-0.4	-0.3	0.0	0.0	0.0	0.3	0.6						
				58	All Years	3.7	0.2	0.0	0.0	0.0	0.0	-1.2						
				60	All Years	-1.3	0.0	0.0	0.0	0.0	0.0	1.3						
				62	All Years	-0.2	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	0.0				
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
			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				
			Barrier Dairi	68 70	All Years 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				
				60	All Years		0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0			_	
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.2				
Juvenile Rearing	November	Monthly Mean Water	Below the Thermalito Afterbay	65	All Years		0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0				
and Emigration	through June	Temperatures (°F)	Outlet	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	0.0	0.0	-0.2				
				75	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				
				63	All Years		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	0.4	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	-1.2				
				75	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6				

Table AQ-T-4-9c Steelhead in the Lower Feather River

Life Stanc	Evaluation	Incompatible disease	Location	Criteria	_		ı	let Change i	n Probabilit	y of Exceeda	ance under	Alternative I	O relative to	the No Action	on Alternativ	/e	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				52	All Years	0.0	0.0	-1.9	0.0	0.0	1.4	3.8				0.0	0.0
			Low Flow Channel below the Fish Barrier Dam	56	All Years	-2.7	-2.0	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	0.0				0.0	0.0
A shalk has seed as set in	A	MA Al- L - MA NA/ - A		52	All Years	0.0	0.0	0.0	0.0	-0.1	-0.4	0.0				0.0	0.0
Adult Immigration and Holding	August through April	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	56	All Years	-0.4	-0.3	0.0	0.0	0.0	0.3	0.6				0.0	0.0
and molding	tillough April	April Temperatures ( F)		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	-1.0	0.0	0.0				0.0	0.0
				56	All Years	0.0	0.4	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				1.2	-1.9
				52	All Years			-1.9	0.0	0.0	1.4	3.8	0.0				
			Low Flow Channel below the Fish Barrier Dam	54	All Years			0.0	0.0	0.0	0.8	0.0	0.0				
			200 From Original Bolow the From Barrier Barrier	57	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
	December	Monthly Mean Water Temperatures (°F)		60	All Years			0.0	0.0	0.0	0.0	0.0	0.0				
Incubation	through May	Temperatures (°F)	Below the Thermalito Afterbay Outlet	52	All Years			0.0	0.0	-0.1 0.0	-0.4	0.0	0.0				
				54 57	All Years All Years			0.0	0.0	0.0	-1.2 -2.1	0.0 1.3	0.0				
				60	All Years			0.0	0.0	0.0	0.0	1.3	0.0				
				63	All Years	0,2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.7	0.0
		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	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
Juvenile Rearing				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
and Emigration	Year-round		rr	63	All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.2	0.0	0.0	1.0
- '				65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	6.2
			Below the Thermalito Afterbay Outlet	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	6.2	-5.5	-0.7
				72	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
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	0.0
				52	All Years	0.0	0.0	-1.9	0.0	0.0	1.4	3.8	0.0		4.0		
			Low Flow Channel below the Fish Barrier Dam	55	All Years	1.7	-2.5	0.0	0.0	0.0	0.3	0.0	0.5				
				59	All Years	-0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0				
!	1			52	All Years	0.0	0.0	0.0	0.0	-0.1	-0.4	0.0	0.0				
Smolt Emigration	October	Monthly Mean Water	Below the Thermalito Afterbay Outlet	55	All Years	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0				
zz. zg.ation	through May	Temperatures (°F)	Outlot	59	All Years	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
!	1			52	All Years	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.0				
			Mouth of the Lower Feather River	55	All Years	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0				
				59	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Table AQ-T-4-9d
Green Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria	_	Net Change in Probability of Exceedance under Alternative D relative to the No Action Alternative													
Adult Immigration and Holding	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
				61	All Years	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	5.0	-8.1	1.7		
			Low Flow Channel below the Fish Barrier Dam	64	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	-0.6	0.4	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		
Adult Immigration February	February			61	All Years	2.1	0.0	0.0		0.0	0.0	1.9	0.0	0.0	0.0	0.0	-2.5		
	through	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	64	All Years	0.4	0.0	0.0		0.0	0.0	0.0	-1.3	1.7	0.0	6.2 -5.5	7.9		
g	December			68	All Years	0.0	0.0	0.0		0.0	0.0	0.0	0.0	2.5	6.2	-5.5	-0.7		
			Mouth of the Lower Feather River	61	All Years	1.2	0.0	0.0		0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0		
				64	All Years	0.0	0.0	0.0		0.0	0.0	1.3	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	-2.8		
Adult Spawning and Embryo	March through	Monthly Mean Water		64	All Years						0.0	0.0	-1.3	1.7	0.0	0.0	7.9		
Incubation	August	Temperatures (°F)		68	All Years						0.0	0.0	0.0	2.5	6.2	-5.5			
			Below the Thermalito Afterbay Outlet	64	All Years	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	1.7	0.0	0.0	7.9		
Juvenile Rearing	Year-round	Monthly Mean Water	Delow the Thermanto Alterbay Outlet	66	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.6	0.0	-0.6	0.5		
zzzzzzzz riodinig		Temperatures (°F)	Mouth of the Lower Feather River	64	All Years	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0		
				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	1.2		
Juvenile	May through	Monthly Mean Water Temperatures (°F)	Below the Thermalito Afterbay Outlet	66	All Years								0.3	4.6	0.0	-0.6	0.5		
Emigration			Mouth of the Lower Feather River	66	All Years								0.0	0.0	0.0	0.0	1.2		

Table AQ-T-4-9e White Sturgeon in the Lower Feather River

	Evaluation		Location	Criteria			ı	let Change i	n Probabilit	y of Exceeda	ance under	Alternative D	relative to	the No Actio	on Alternativ	re	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Below the Fish Barrier Dam	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Adult Immigration and Holding	November through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	77	All Years		0.0	0.0	0.0	0.0	0.0	0.0	0.0				
and molaing	ioug.i may	tomporataroo ( 1 )	Mouth of the Feather River	77	All Years		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				
Spawning and Egg	February through May	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61	All Years					0.0	0.0	1.9	0.0				
modedion	unougnmuy	tomporatares ( 1 )	Mouth of the Feather River	61	All Years					0.0	0.0	0.0	0.4				
			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
Juvenile Rearing and Emigration	Year-round	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	0.3	4.6	0.0	-0.6	0.5
and Emigration			Mouth of the Feather River	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	1.2

Table AQ-T-4-9f
Pacific Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	y of Exceeda	ance under	Alternative D	relative to	the No Action	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning	January		Low Flow Channel below the Fish Barrier Dam	50-64	All Years				0.7	1.2	-2.8	0.0	0.0	0.0	0.6	-0.4	
and Egg	through	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	50-64	All Years				0.0	1.3	0.0	0.0	1.3	-1.7	0.0	0.0	
	Incubation August temp		Mouth of the Lower Feather River	50-64	All Years				0.0	-1.3	0.0	-1.3	0.0	0.0	0.0	0.0	
Ammocoete		Monthly mean water	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
Rearing and Emigration	Year-round	temperatures (°F)	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	-2.4	0.0	0.0
	Emigration		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	5.0	1.3	-2.1	-0.6

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

Table AQ-T-4-9g River Lamprey in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	of Exceed	ance under	Alternative D	relative to	the No Actio	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning		Monthly mean water	Low Flow Channel below the Fish Barrier Dam	50-64	All Years					1.2	-2.8	0.0	0.0	0.0	0.6		
and Egg	February through July	temperatures	Below the Thermalito Afterbay Outlet	50-64	All Years					1.3	0.0	0.0	1.3	-1.7	0.0		
incubation	Incubation through July through July (deg. F)	Mouth of the Lower Feather River	50-64	All Years					-1.3	0.0	-1.3	0.0	0.0	0.0			
Ammassata	Ammocoete		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
Rearing and	Year-round	Monthly mean water temperatures (°F)	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	-2.4	0.0	0.0
Emigration	Emigration temperatures (		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	5.0	1.3	-2.1	-0.6

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

Table AQ-T-4-9h Hardhead in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under	Alternative D	relative to	the No Action	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Low Flow Channel below the Fish Barrier Dam	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
Adults and Juveniles	Year-round	Monthly mean water temperatures (°F)	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	6.2
	Juveniles Year-round t		Mouth of the Lower Feather River	65-82	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
			Low Flow Channel below the Fish Barrier Dam	59-64	All Years							0.0	0.0	1.3			
Adult Spawning	April through June	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	59-64	All Years							0.2	1.3	-1.7			
			Mouth of the Lower Feather River	59-64	All Years							-1.3	0.0	0.0			

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

Table AQ-T-4-9j

### Splittail in the Lower Feather River

Ī		Evaluation		Location	Criteria	_		N	et Change i	n Probabilit	y of Exceeda	nce under A	Alternative D	relative to	the No Actio	n Alternativ	re	
	Life Stage	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)	Mouth of the Feather River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-4-9k Striped Bass in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probability	y of Exceeda	nce under	Alternative D	relative to	the No Actio	on Alternativ	re .	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo		Monthly mean water	Below the Thermalito Afterbay Outlet	59-68	All Years							0.2	0.0	-2.5			
Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the Feather River	59-68	All Years							0.0	0.0	0.0			
Larvae, Fry, and Juvenile Rearing	Juvenile Rearing Vear-round MO	Monthly mean water temperatures (°F)	Below the Thermalito Afterbay Outlet	61-71	All Years	2.1	0.0	0.0	0.0	0.0	0.0	1.9	0.0	-0.9	1.8	-7.5	-2.5
and Emigration	nd Emigration temperatures (°F)	Mouth of the Feather River	61-71	All Years	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.3	-1.3	2.5	-1.3	

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

Table AQ-T-4-9I
American Shad in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	nce under	Alternative D	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning, Embryo	April through	Monthly mean water	Below the Thermalito Afterbay Outlet	60-70	All Years							1.3	0.0	0.2			
Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the Feather River	60-70	All Years							0.0	0.0	1.2			
Larvae, Fry, and Juvenile Rearing	Juvenile Rearing July through Mor	Monthly mean water	Below the Thermalito Afterbay Outlet	63-77	All Years	-0.2	0.0								0.0	0.0	1.0
and Emigration	luvenile Hearing November temperatures (	temperatures (*F)	Mouth of the Feather River	63-77	All Years	1.2	0.0								0.1	1.2	0.0

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

Table AQ-T-4-9m

# Largemouth Bass in the Lower Feather River

	Evaluation		Location	Criteria	_		N	let Change i	n Probabilit	y of Exceeda	ance under A	Alternative D	relative to	the No Actio	n Alternativ	е	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Chausina	March through	Monthly mean water	Below the Thermalito Afterbay Outlet	59-75	All Years						0.0	0.2	0.0	0.0			
Spawning	June	temperatures (°F)	Mouth of the Feather River	59-75	All Years						0.0	0.0	0.0	0.6			

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

Appendix 12E
Fisheries Water Temperature
Assessment Summary Tables
American River







Table AQ-T-5-3a Spring-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative A	relative to t	he No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Non-Natal Juvenile November Rearing through April Temperatures (°F) Mouth		60	All Years		0.0	0.0	0.0	0.0	0.0	2.0						
			63	All Years		0.0	0.0	0.0	0.0	0.0	-0.5						
Non-Natal Juvenile		Mouth of the American River	65	All Years		0.0	0.0	0.0	0.0	0.0	0.2						
Rearing		Temperatures (°F)	Would of the American River	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						

Table AQ-T-5-3b
Fall-run Chinook Salmon in the Lower American River

Lifestage Evaluat Perio  Adult Immigration and Holding Septem throug Decem  Adult Spawning Octob through Memory Incubation Octob through Memory Incubation Incubation Period I	Impact Indicator  Impact Indicator  Monthly Mean Water Temperatures (°F)	Description  American River at Watt Avenue  Mouth of the American River	Value (°F) 60 64 68 60	All Years All Years All Years	Oct -12.6 -1.8	<b>Nov</b> 0.0	<b>Dec</b> 0.0	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding throug Decem  Adult Spawning Decem  October throug Decem  October Octobe	ough ember Temperatures (°F)		64 68	All Years			0.0								9	Зер
Adult Immigration and Holding throug Decem  Adult Spawning Cotob throug Decem	ough ember Temperatures (°F)		68		-1.8											0.0
Adult Immigration and Holding throug Decem  Adult Spawning Cotob throug Decem	ough ember Temperatures (°F)	Mouth of the American River		All Years		0.0	0.0									0.9
Adult Spawning Decem  Adult Spawning Decem  Octob throug Decem	ember remperatures (*F)	Mouth of the American River	60		0.0	0.0	0.0									-0.1
Adult Spawning throug Decem	obor	Mouth of the American River		All Years	-1.5	0.0	0.0									0.0
Adult Spawning throug Decem	ohor		64	All Years	-0.9	0.0	0.0									-0.4
Adult Spawning throug Decem	obor		68 56	All Years All Years	0.0	0.0 -12.1	0.0									2.2
Decem	Monthly Mean Water		58	All Years	-1.7	-0.5	0.0									
Embryo Incubation Octob	Temperatures (°F)	American River at Watt Avenue	60	All Years	-12.6	0.0	0.0									
	ember		62	All Years	-10.4	0.0	0.0									
			56	All Years	0.0	-12.1	0.0	0.0	0.0	1.4						
	ober Monthly Mean Water		58	All Years	-1.7	-0.5	0.0	0.0	0.0	2.2						
		American River at Watt Avenue	60	All Years	-12.6	0.0	0.0	0.0	0.0	0.0						
			62	All Years	-10.4	0.0	0.0	0.0	0.0	0.0						
			60	All Years	10.1	0.0	0.0	0.0	0.0	0.0	0.3	-0.9	-0.7			
			63	All Years				0.0	0.0	0.0	0.0	-0.8	-0.9			
			65	All Years				0.0	0.0	0.0	0.0	-1.5	-0.3			
		American River at Nimbus Dam	68	All Years				0.0	0.0	0.0	0.0	0.0	1.2			
			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			
			60	All Years				0.0	0.0	0.0	2.6	1.1	9.2			
			63	All Years				0.0	0.0	0.0	0.5	0.7	1.1			
Juvenile Rearing Janua		American River at Watt Avenue	65	All Years				0.0	0.0	0.0	0.3	0.1	0.8			
and Emigration through	h June Temperatures (°F)	American River at Walt Avenue	68	All Years				0.0	0.0	0.0	0.0	-0.1	-0.4			
			70	All Years				0.0	0.0	0.0	0.0	0.0	-0.2			
			75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
			60	All Years				0.0	0.0	0.0	2.0	1.3	-0.1			
			63	All Years				0.0	0.0	0.0	-0.5	0.0	2.1			
		Mouth of the American River	65	All Years				0.0	0.0	0.0	0.2	-2.0	-1.4			
			68	All Years				0.0	0.0	0.0	0.0	-0.6	-0.3			
			70 75	All Years All Years				0.0	0.0	0.0	0.0	-0.9	-0.5			

Table AQ-T-5-3c Steelhead in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative A	A relative to	the No Action	n Alternative	)	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				52	All Years		0.0	-2.9	0.0	1.9	5.4	-2.2					
			American River at Watt Avenue	56	All Years		-12.1	0.0	0.0	0.0	1.4	1.5					
Adult Immigration	November	Monthly mean water		70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		52	All Years		0.0	0.7	0.0	1.3	-0.6	0.0					
			Mouth of the American River	56	All Years		-3.7	0.0	0.0	0.0	0.2	1.5					
				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
				52	All Years				0.0	1.9	5.4	-2.2					
Adult Spawning	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	4.4	-0.7					
	through April	temperatures (°F)		57	All Years				0.0	0.0	2.1	2.0					
				60	All Years				0.0	0.0	0.0	2.6					
				52	All Years				0.0	1.9	5.4	-2.2	-0.1				
Embryo Incubation	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	4.4	-0.7	0.2				
*	through May	temperatures (°F)		57	All Years				0.0	0.0	2.1	2.0	4.9				
				60	All Years	4.0	2.2		0.0	0.0	0.0	2.6	1.1		4.0		
				65	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.3	1.3	-0.8	-0.8
			American River at Nimbus Dam	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.5	-1.9	0.8
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.1	-0.7
		-		75 65	All Years All Years	0.0 -3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.4	0.0 -2.1
Juvenile Rearing		Manthlana		68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1 -0.1	-0.4	-2.8 1.8	-3.1 0.9	-2.1 -0.1
and Emigration	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8	-1.0	-0.1
and Linigration		temperatures ( 1 )		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.1	-1.5
				65	All Years	1.2	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-1.4	3.9	2.1	-0.8
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.3	0.1	-2.8	2.2
			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.6	-2.4	-0.9
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	1.1	-1.1	-0.5
				52	All Years	3.0	0.0	0.0	0.0	1.9	5.4	-2.2	-0.1	0.0	1.1	1.1	0.0
	January	Monthly mean water	American River at Watt Avenue	55	All Years				0.0	0.0	2.3	2.3	1.5	0.0			
Smolt Emigration	through June	temperatures (°F)		52	All Years				0.0	1.3	-0.6	0.0	0.0	0.0			
		, , , ,	Mouth of the American River	55	All Years				0.0	0.0	4.7	-1.3	-0.1	0.0			

Table AQ-T-5-3d Green Sturgeon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under	Alternative A	relative to t	he No Action	Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean water temperatures (°F)	Mouth of the American River	61	All Years	-9.8	0.0	0.0		0.0	0.0	-0.2	0.1	1.0	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean water temperatures (°F)	Mouth of the American River	68	All Years						0.0	0.0	-0.6	-0.3	0.1	-2.8	
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Mouth of the American River	66	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-1.0	4.8	-3.4	6.4

Table AQ-T-5-3e
Pacific Lamprey in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	ty of Exceed	ance under A	Alternative A	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A della On accession		Manufatronia	Nimbus Dam Release	50-64	All Years				0.3	1.9	1.5	-0.2	0.9	0.7	-1.9	0.7	
	dult Spawning January I Egg Incubation through August	Monthly mean water temperatures (°F)	American River at Watt Avenue	50-64	All Years				-1.4	2.0	-0.7	-0.7	-1.8	-2.0	-8.8	1.3	
and Egg incubation	iiiougii / tugust	temperatures (1)	Mouth of the American River	50-64	All Years				0.2	-1.1	0.0	0.5	-0.3	0.0	-0.1	0.0	
Ammocoete			Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.1	-0.7
Rearing and	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8	-1.0	-1.5
Emigration		temperatures (1)	Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.6	-2.4	-0.9

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

Table AQ-T-5-3f
River Lamprey in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabilit	y of Exceed	ance under /	Alternative A	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Nimbus Dam Release	50-64	All Years					1.9	1.5	-0.2	0.9	0.7	-1.9		
Adult Spawning		Monthly mean water	American River at Watt Avenue	50-64	All Years					2.0	-0.7	-0.7	-1.8	-2.0	-8.8		
and Egg Incubation		temperatures (°F)	Mouth of the American River	50-64	All Years					-1.1	0.0	0.5	-0.3	0.0	-0.1		
Ammocoete	Pearing and Vear-round Moi	Monthly mean water	Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.1	-0.7
Rearing and Emigration	Year-round	temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8	-1.0	-1.5
Emigration	Emigration		Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.6	-2.4	-0.9

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

Table AQ-T-5-3g

## Hardhead in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative A	relative to t	he No Actio	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82	All Years	-3.7	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.8	-2.8	-3.0	-2.1
Adult Spawning	April through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64	All Years							2.4	-3.6	-0.2			

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

Table AQ-T-5-3i

## Splittail in the Lower American River

Life Otens	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative A	relative to t	he No Actior	n Alternative		
Life Stage	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)	Mouth of the American River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-5-3j Striped Bass in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	y of Exceed	ance under	Alternative A	relative to t	he No Actio	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	59-68	All Years							3.1	-1.7	2.2			
Embryo Incubation, and Initial Rearing	lung	temperatures (°F)	Mouth of the American River	59-68	All Years							4.2	4.0	0.2			
Larvae, Fry, and Juvenile Rearing	Larvae, Fry, and	Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71	All Years	-12.8	0.0	0.0	0.0	0.0	0.0	1.0	-1.7	6.3	0.6	2.1	1.5
and Emigration			Mouth of the American River	61-71	All Years	-9.8	0.0	0.0	0.0	0.0	0.0	-0.2	1.6	1.3	2.1	0.3	0.0

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

Table AQ-T-5-3k American Shad in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative A	relative to t	he No Action	Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	60-70	All Years							2.6	1.1	9.4			
Embryo Incubation, and Initial Rearing		temperatures (°F)	Mouth of the American River	60-70	All Years							2.0	2.2	0.4			
Larvae, Fry, and	July through	Monthly mean water	American River at Watt Avenue	63-77	All Years	-2.0	0.0								2.9	2.8	-1.9
Juvenile Rearing and Emigration	November	temperatures (°F)	Mouth of the American River	63-77	All Years	-10.1	0.0								-0.4	0.8	0.0

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

Table AQ-T-5-3I Largemouth Bass in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative A	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75	All Years						0.0	3.1	-1.8	1.8			

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







Table AQ-T-5-5a Spring-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative E	relative to t	he No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years		0.0	0.0	0.0	0.0	0.0	2.3					
				63	All Years		0.0	0.0	0.0	0.0	0.0	-0.9					
Non-Natal Juvenile	November	Monthly Mean Water	Mouth of the American River	65	All Years		0.0	0.0	0.0	0.0	0.0	0.2					
Rearing	through April	Temperatures (°F)	Modiff of the American River	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					

Table AQ-T-5-5b
Fall-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative E	3 relative to t	he No Action	n Alternative	•	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-10.5	0.0	0.0									0.0
	September		American River at Watt Avenue	64	All Years	-1.3	0.0	0.0									4.8
Adult Immigration	through	Monthly Mean Water		68	All Years	0.0	0.0	0.0									-1.3
and Holding	December	Temperatures (°F)	Mouth of the American River	60	All Years	-1.4	0.0	0.0									0.0
			Mouth of the American River	64	All Years	-3.5	0.0	0.0									0.6
				68	All Years All Years	0.0	0.0 -10.8	0.0									2.2
	October	Monthly Mean Water		56 58	All Years All Years	-1.6	-10.8	0.0									
Adult Spawning	through	Temperatures (°F)	American River at Watt Avenue	60	All Years	-10.5	0.0	0.0									
	December	Tomporataroo (T)		62	All Years	-12.2	0.0	0.0									
				56	All Years	0.0	-10.8	0.0	0.0	0.0	0.2						
	0.1.1	Manufalla Managa Marana		58	All Years	-1.6	-0.5	0.0	0.0	0.0	1.5						
Embryo Incubation	October through March	Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	60	All Years	-10.5	0.0	0.0	0.0	0.0	0.0						
	ti ilougii warcii	Temperatures (T)				-10.5	0.0	0.0	0.0	0.0	0.0						
				62	All Years	-12.2	0.0	0.0				0.0	4.0	4.5			
				60	All Years				0.0	0.0	0.0	0.2	1.0 -2.0	-1.5 -0.7			<del></del>
				63 65	All Years All Years				0.0	0.0	0.0	0.0	-2.0 -1.5	-0.7			
			American River at Nimbus Dam	68	All Years				0.0	0.0	0.0	0.0	0.0	1.7			
				70	All Years				0.0	0.0	0.0	0.0	0.0	0.3			
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years				0.0	0.0	0.0	2.2	1.4	10.1			
				63	All Years				0.0	0.0	0.0	0.2	3.7	0.7			
Juvenile Rearing	January	Monthly Mean Water	Associate Disease Matt Associa	65	All Years				0.0	0.0	0.0	0.2	0.9	1.8			
and Emigration	through June	Temperatures (°F)	American River at Watt Avenue	68	All Years				0.0	0.0	0.0	0.0	-1.2	-0.3			
	and Emigration through June Temperatur			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	0.5			
				60	All Years				0.0	0.0	0.0	2.3	-1.7	0.0			
				63	All Years				0.0	0.0	0.0	-0.9	-1.9	2.5			
			Mouth of the American River	65	All Years				0.0	0.0	0.0	0.2	-0.8	-1.3			
			modul of the full filter	68	All Years				0.0	0.0	0.0	0.0	-0.8	-0.1			
				70	All Years				0.0	0.0	0.0	0.0	-1.9	-0.4			
				75	All Years				0.0	0.0	0.0	0.0	0.0	1.4			

Table AQ-T-5-5c Steelhead in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative E	3 relative to t	the No Action	n Alternative	)	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				52	All Years		0.0	-3.3	0.0	0.9	6.1	-1.7					
			American River at Watt Avenue	56	All Years		-10.8	0.0	0.0	0.0	0.2	-1.0					
Adult Immigration	November	Monthly mean water		70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		52	All Years		0.0	1.0	0.0	-1.0	-0.8	0.0					
			Mouth of the American River	56	All Years		-2.9	0.0	0.0	0.0	-0.9	2.2					
				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
				52	All Years				0.0	0.9	6.1	-1.7					
Adult Spawning	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	3.7	0.2					
3	through April	temperatures (°F)		57	All Years				0.0	0.0	1.6	3.3					
				60	All Years				0.0	0.0	0.0	2.2					
				52	All Years				0.0	0.9	6.1	-1.7	-0.1				
Embryo Incubation	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	3.7	0.2	0.1				
*	through May	temperatures (°F)		57	All Years				0.0	0.0	1.6	3.3	3.3				
				60	All Years	1.0			0.0	0.0	0.0	2.2	1.4				
				65	All Years	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.3	0.8	-3.8	-1.5
			American River at Nimbus Dam	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.7	-1.4	-0.1
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-0.7	-0.7
		-		75 65	All Years All Years	0.0 -3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.4 -0.6	0.0
Laure No Breeden		Manthlana			All Years All Years	0.0		0.0	0.0		0.0	0.2	0.9	1.8	0.8	-0.6	
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	68 72	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2 0.0	-0.3 1.7	2.3	-3.0	-1.3 -1.3
and Emigration		temperatures ( 1 )		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.5	-0.7	-1.4
		-		65	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-1.3	4.6	0.6	2.8
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.1	-1.0	-2.0	2.0
			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	-1.9	0.3
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2,2	-0.1	-1.2
				52	All Years	0.0	0.0	0.0	0.0	0.9	6.1	-1.7	-0.1	0.0	2.2	0.1	1.2
	January	Monthly mean water	American River at Watt Avenue	55	All Years				0.0	0.0	3.2	3.2	2.9	-0.2			
Smolt Emigration	through June	temperatures (°F)		52	All Years				0.0	-1.0	-0.8	0.0	0.0	0.0			
		1	Mouth of the American River	55	All Years				0.0	0.0	0.9	-0.7	-0.1	0.0			

Table AQ-T-5-5d Green Sturgeon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under	Alternative B	relative to t	he No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean water temperatures (°F)	Mouth of the American River	61	All Years	-6.6	0.0	0.0		0.0	0.0	-2.1	0.5	0.2	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean water temperatures (°F)	Mouth of the American River	68	All Years						0.0	0.0	-0.8	-0.1	-1.0	-2.0	
Juvenile Rearing and Emigration	Year-round	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	0.6	-1.2	2.5	-2.0	7.7

Table AQ-T-5-5e
Pacific Lamprey in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	ty of Exceed	ance under	Alternative B	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A della Consessione	dult Spawning January	Manufatronia	Nimbus Dam Release	50-64	All Years				0.3	1.5	4.7	-0.1	1.9	0.6	-0.4	0.5	
	dult Spawning January Egg Incubation through Augus	Monthly mean water temperatures (°F)	American River at Watt Avenue	50-64	All Years				-1.4	0.6	-0.6	-0.5	-1.3	-1.9	-4.6	0.0	
and Egg modbation	iiiougii / tugust	temperatures (1)	Mouth of the American River	50-64	All Years				0.1	-2.1	0.0	0.8	-1.8	1.7	1.8	0.0	
Ammocoete			Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-0.7	-0.7
Rearing and	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.3	-0.7	-1.3
Emigration		temperatures (1)	Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	-1.9	0.3

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

Table AQ-T-5-5f 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 Spawning and Egg Incubation		Monthly mean water temperatures (°F)	Nimbus Dam Release	50-64	All Years					1.5	4.7	-0.1	1.9	0.6	-0.4				
	February through July		American River at Watt Avenue	50-64	All Years					0.6	-0.6	-0.5	-1.3	-1.9	-4.6				
			Mouth of the American River	50-64	All Years					-2.1	0.0	0.8	-1.8	1.7	1.8				
Ammocoete Rearing and Emigration		Monthly mean water	Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-0.7	-0.7		
	Year-round	temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.3	-0.7	-1.3		
			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.3	-1.9	0.3		

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

Table AQ-T-5-5g

## Hardhead in the Lower American River

Life Stage	Evaluation Period		Location	Criteria	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
		Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82	All Years	-3.7	0.0	0.0	0.0	0.0	0.0	0.2	0.9	1.8	0.8	-0.5	0.5	
Adult Spawning	April through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64	All Years							2.1	-3.3	-1.1				

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

Table AQ-T-5-5i

## Splittail 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 water temperatures (°F)	Mouth of the American River	45-75	All Years					0.0	0.0	0.0	0.0						

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

Table AQ-T-5-5j Striped Bass in the Lower American River

Life Stage	Evaluation Period		Location	Criteria	Range	Net Change in Probability of Exceedance under Alternative B relative to the No Action Alternative													
		Impact Indicator	Description	Value		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Adult Spawning, Embryo Incubation, and Initial Rearing	April through	Monthly mean water	American River at Watt Avenue	59-68	All Years							2.6	-0.8	1.1					
	lung	temperatures (°F)	Mouth of the American River	59-68	All Years							1.1	4.1	0.0					
Larvae, Fry, and Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71	All Years	-8.4	0.0	0.0	0.0	0.0	0.0	-0.4	-3.4	3.0	0.0	1.8	-0.6		
			Mouth of the American River	61-71	All Years	-6.6	0.0	0.0	0.0	0.0	0.0	-2.1	2.0	0.3	1.0	1.5	-0.1		

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

Table AQ-T-5-5k 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,	April through	Monthly mean water temperatures (°F)	American River at Watt Avenue	60-70	All Years							2.2	1.4	10.1					
Embryo Incubation, and Initial Rearing	June		Mouth of the American River	60-70	All Years							2.3	0.2	0.4					
Larvae, Fry, and	July through	Monthly mann water	American River at Watt Avenue	63-77	All Years	-3.8	0.0								4.0	3.4	-0.7		
Juvenile Rearing and Emigration	November	Monthly mean water temperatures (°F)	Mouth of the American River	63-77	All Years	-9.9	0.0								-1.5	0.7	0.0		

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

Table AQ-T-5-5I Largemouth Bass in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceeda	ance under	Alternative B	relative to t	he No Action	Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75	All Years						0.0	2.6	-2.0	0.3			

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







Table AQ-T-5-7a Spring-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative C	relative to t	he No Action	Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	on-Natal Juvenile November Monthly Mean Water Rearing through April Temperatures (°F)		60	All Years		0.0	0.0	0.0	0.0	0.0	3.7						
				63	All Years		0.0	0.0	0.0	0.0	0.0	-0.7					
Non-Natal Juvenile		Monthly Mean Water	Mouth of the American River	65	All Years		0.0	0.0	0.0	0.0	0.0	0.2					
Rearing		Temperatures (°F)	Would of the American River	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					

Table AQ-T-5-7b Fall-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative C	relative to t	he No Actio	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years	-3.0	0.0	0.0									0.0
	September		American River at Watt Avenue	64	All Years	-3.1	0.0	0.0									1.9
Adult Immigration	through	Monthly Mean Water		68	All Years	0.0	0.0	0.0									-1.1
and Holding	December	Temperatures (°F)		60	All Years	-0.9	0.0	0.0									0.0
			Mouth of the American River	64	All Years	-4.0	0.0	0.0									0.6
				68	All Years	0.0	0.0	0.0									3.6
	October			56	All Years	0.0	-7.1	0.0									
Adult Spawning	through	Monthly Mean Water	American River at Watt Avenue	58	All Years	-1.5	-0.5	0.0									
ridan opaming	December	Temperatures (°F)	, mondair mon de male, mondo	60	All Years	-3.0	0.0	0.0									
				62	All Years	-11.8	0.0	0.0									
				56	All Years	0.0	-7.1	0.0	0.0	0.0	-0.6						
Embryo Incubation	October	Monthly Mean Water	American River at Watt Avenue	58	All Years	-1.5	-0.5	0.0	0.0	0.0	1.2						
Embryo mcubation	through March	Temperatures (°F)	American River at Watt Avenue	60	All Years	-3.0	0.0	0.0	0.0	0.0	0.0						
				62	All Years	-11.8	0.0	0.0	0.0	0.0	0.0						
				60	All Years				0.0	0.0	0.0	0.3	0.1	0.5			
				63	All Years				0.0	0.0	0.0	0.0	-1.4	-0.3			
			Associate Disease Nicolas Base	65	All Years				0.0	0.0	0.0	0.0	-1.5	-1.2			
			American River at Nimbus Dam	68	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			
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years				0.0	0.0	0.0	3.0	1.3	6.2			
				63	All Years				0.0	0.0	0.0	0.4	5.0	0.7			
Juvenile Rearing	January	Monthly Mean Water	American River at Watt Avenue	65	All Years				0.0	0.0	0.0	0.2	1.0	4.5			
and Emigration	through June	Temperatures (°F)	American River at Walt Avenue	68	All Years				0.0	0.0	0.0	0.0	-1.2	-0.3			
				70	All Years				0.0	0.0	0.0	0.0	0.0	-1.1			
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years				0.0	0.0	0.0	3.7	0.3	0.2			
				63	All Years				0.0	0.0	0.0	-0.7	1.7	4.2			
			Mouth of the American River	65	All Years				0.0	0.0	0.0	0.2	-1.9	-1.3			
			Would of the American River	68	All Years				0.0	0.0	0.0	0.0	-0.9	1.2			
				70	All Years				0.0	0.0	0.0	0.0	-2.3	-0.9			
				75	All Years				0.0	0.0	0.0	0.0	0.0	-0.2			

Table AQ-T-5-7c Steelhead in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	lance under	Alternative (	relative to t	he No Actio	n Alternative	1	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				52	All Years		0.0	-3.9	0.0	2.0	6.6	-1.2					
			American River at Watt Avenue	56	All Years		-7.1	0.0	0.0	0.0	-0.6	1.5					
Adult Immigration	November	Monthly mean water		70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		52	All Years		0.0	1.1	0.0	1.0	-0.6	0.0					
			Mouth of the American River	56	All Years		-1.8	0.0	0.0	0.0	0.2	1.2					
				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
				52	All Years				0.0	2.0	6.6	-1.2					
Adult Spawning	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	2.4	0.2					
	through April	temperatures (°F)		57	All Years				0.0	0.0	2.3	4.0					
				60	All Years				0.0	0.0	0.0	3.0					
				52	All Years				0.0	2.0	6.6	-1.2	-0.1				
Embryo Incubation	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	2.4	0.2	0.6				
*	through May	temperatures (°F)		57	All Years				0.0	0.0	2.3	4.0	0.8				
				60	All Years	0.4			0.0	0.0	0.0	3.0	1.3	4.0	0.1	0.0	
				65	All Years	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.2	-0.1	-2.9	-2.0
			American River at Nimbus Dam	68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.5	-2.4	-1.2
				72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.2	-0.7
				75 65	All Years All Years	0.0 -4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 4.5	0.0	-0.5	0.0 -0.6
Juvenile Rearing		Manthleanan		68	All Years All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0 -1.2	-0.3	-2.5 0.2	-1.3 0.6	-0.6 -1.1
and Emigration	Year-round	Monthly mean water temperatures (°F)	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	1.2	-2.5	-1.1
and Emigration		temperatures ( 1 )		75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.2	-1.4
				65	All Years	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-1.3	4.2	0.0	-2.3
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	1.2	-2.3	-2.1	3.6
			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-2.4	-2.9	-3.2
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	1.2	-1.6	-1.8
				52	All Years	0.0	0.0	0.0	0.0	2.0	6.6	-1.2	-0.1	0.0	1.2	1.0	1.0
	January	Monthly mean water	American River at Watt Avenue	55	All Years				0.0	0.0	3.7	1.9	1.3	-0.2			
Smolt Emigration	through June	temperatures (°F)		52	All Years				0.0	1.0	-0.6	0.0	0.0	0.0			
		. , , , ,	Mouth of the American River	55	All Years				0.0	0.0	1.1	-1.6	0.0	0.0			

Table AQ-T-5-7d Green Sturgeon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative C	relative to t	he No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean water temperatures (°F)	Mouth of the American River	61	All Years	0.0	0.0	0.0		0.0	0.0	-0.3	0.4	0.3	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean water temperatures (°F)	Mouth of the American River	68	All Years						0.0	0.0	-0.9	1.2	-2.3	-2.1	
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Mouth of the American River	66	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.5	5.0	-3.7	7.3

Table AQ-T-5-7e
Pacific Lamprey in the Lower American River

	,																
1.1/2.01	Evaluation		Location	Criteria	B			Net Change	in Probabilit	y of Exceed	ance under	Alternative C	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A shall On assertant		Manthless	Nimbus Dam Release	50-64	All Years				0.4	2.5	2.2	-0.1	2.1	1.1	-1.3	1.1	
Adult Spawning and Egg Incubation		Monthly mean water temperatures (°F)	American River at Watt Avenue	50-64	All Years				-1.7	1.6	-0.3	-0.6	-1.9	-3.5	-8.6	1.7	
and Egg incubation	tillough / tugust	temperatures (1)	Mouth of the American River	50-64	All Years				0.1	-2.9	0.0	0.6	-2.2	0.5	0.4	0.0	
Ammocoete			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	-1.2	-0.7
Rearing and	Year-round	Monthly mean water temperatures (°F)	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	1.2	-2.5	-2.8
Emigration		tomporatures (1)	Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-2.4	-2.9	-3.2

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

Table AQ-T-5-7f River Lamprey in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under	Alternative C	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Nimbus Dam Release	50-64	All Years					2.5	2.2	-0.1	2.1	1.1	-1.3		
Adult Spawning		Monthly mean water	American River at Watt Avenue	50-64	All Years					1.6	-0.3	-0.6	-1.9	-3.5	-8.6		
and Egg Incubation		temperatures (°F)	Mouth of the American River	50-64	All Years					-2.9	0.0	0.6	-2.2	0.5	0.4		
Ammocoete		Monthly mean water	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	-1.2	-0.7
Rearing and Emigration	Year-round	temperatures (°F)	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	1.2	-2.5	-2.8
Emgration			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-2.4	-2.9	-3.2

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

Table AQ-T-5-7g

## Hardhead in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative (	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82	All Years	-4.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	4.5	-2.5	-1.2	-0.6
Adult Spawning	April through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64	All Years							3.8	-3.9	-2.5			

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

## Table AQ-T-5-7i

# Splittail in the Lower American River

1.1/2.012	Evaluation	lance and be all and an	Location	Criteria	B			Net Change	in Probabilit	y of Exceed	ance under /	Alternative C	relative to t	he No Action	Alternative		
Life Stage	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)	Mouth of the American River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-5-7j Striped Bass in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under i	Alternative C	relative to t	he No Actio	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	59-68	All Years							4.4	-0.8	1.3			
Embryo Incubation, and Initial Rearing	luno	temperatures (°F)	Mouth of the American River	59-68	All Years							3.8	0.9	-1.3			
Larvae, Fry, and Juvenile Rearing	Larvae, Fry, and	Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71	All Years	-7.8	0.0	0.0	0.0	0.0	0.0	0.4	-0.4	7.4	1.1	3.4	2.9
and Emigration			Mouth of the American River	61-71	All Years	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	1.9	1.4	1.1	2.7	1.4

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

Table AQ-T-5-7k
American Shad in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative C	relative to t	he No Action	Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	60-70	All Years							3.0	1.3	7.3			
Embryo Incubation, and Initial Rearing	June	temperatures (°F)	Mouth of the American River	60-70	All Years							3.7	2.6	1.1			
Larvae, Fry, and	July through	Monthly mean water	American River at Watt Avenue	63-77	All Years	-5.5	0.0								4.2	0.5	-3.0
Juvenile Rearing and Emigration	November	temperatures (°F)	Mouth of the American River	63-77	All Years	-10.6	0.0								-0.3	0.9	0.0

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

Table AQ-T-5-7I

# Largemouth Bass in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under	Alternative C	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75	All Years						0.0	4.4	-2.0	1.0			

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







Table AQ-T-5-9a Spring-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	ty of Exceed	ance under	Alternative D	relative to t	he No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
				60	All Years		0.0	0.0	0.0	0.0	0.0	2.7					
				63	All Years		0.0	0.0	0.0	0.0	0.0	0.1					
Non-Natal Juvenile	November	Monthly Mean Water	Mouth of the American River	65	All Years		0.0	0.0	0.0	0.0	0.0	0.5					
Rearing	through April	Temperatures (°F)	Modiff of the American River	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					

Table AQ-T-5-9b
Fall-run Chinook Salmon in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative [	relative to t	the No Action	n Alternative		
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				60	All Years	-4.0	0.0	0.0									0.0
	September		American River at Watt Avenue	64	All Years	1.4	0.0	0.0									3.2
Adult Immigration	through	Monthly Mean Water		68	All Years	0.0	0.0	0.0									-2.7
and Holding	December	Temperatures (°F)		60	All Years	-1.3	0.0	0.0									0.0
			Mouth of the American River	64	All Years	-3.4	0.0	0.0									1.4
				68	All Years	0.0	0.0	0.0									2.1
	October			56	All Years	0.0	-0.5	0.0									
Adult Spawning	through	Monthly Mean Water Temperatures (°F)	American River at Watt Avenue	58	All Years	-2.6	-0.5	0.0									
	December	remperatures (*F)		60	All Years	-4.0	0.0	0.0									
				62	All Years	-6.5	0.0	0.0	0.0	0.0	0.7						
				56	All Years	0.0	-0.5	0.0	0.0	0.0	-0.7						
Embryo Incubation	October	Monthly Mean Water	American River at Watt Avenue	58	All Years	-2.6	-0.5	0.0	0.0	0.0	0.0						
	through March	Temperatures (°F)		60	All Years	-4.0	0.0	0.0	0.0	0.0	0.0						
				62	All Years	-6.5	0.0	0.0	0.0	0.0	0.0						
				60	All Years				0.0	0.0	0.0	1.1	1.0	0.8			
				63	All Years				0.0	0.0	0.0	0.0	-0.9	0.8			
			American River at Nimbus Dam	65	All Years				0.0	0.0	0.0	0.0	-1.5	-1.0			
			American River at Nimbus Dam	68	All Years				0.0	0.0	0.0	0.0	0.0	1.5			
				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			
				60	All Years				0.0	0.0	0.0	-0.6	-1.8	3.0			
				63	All Years				0.0	0.0	0.0	1.0	-1.2	2.0			
Juvenile Rearing	January	Monthly Mean Water	American River at Watt Avenue	65	All Years				0.0	0.0	0.0	0.0	0.5	-3.0			
and Emigration	through June	Temperatures (°F)	/ mondan ravor de vrate/tvorido	68	All Years				0.0	0.0	0.0	0.0	-1.0	-0.4			
				70	All Years				0.0	0.0	0.0	0.0	0.0	-0.4			
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.0			
				60	All Years				0.0	0.0	0.0	2.7	-0.5	-0.1			
				63	All Years				0.0	0.0	0.0	0.1	2.6	2.8			
			Mouth of the American River	65	All Years				0.0	0.0	0.0	0.5	-0.8	2.1			
				68	All Years				0.0	0.0	0.0	0.0	-0.9	1.5			
				70	All Years				0.0	0.0	0.0	0.0	-0.8	-0.5			
				75	All Years				0.0	0.0	0.0	0.0	0.0	0.9			

Table AQ-T-5-9c Steelhead in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative I	relative to t	the No Action	n Alternative	)	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
				52	All Years		0.0	4.2	0.0	0.4	3.3	-0.7					
			American River at Watt Avenue	56	All Years		-0.5	0.0	0.0	0.0	-0.7	1.0					
Adult Immigration	November	Monthly mean water		70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
and Holding	through April	temperatures (°F)		52	All Years		0.0	2.1	0.0	-0.9	-0.8	0.0					
			Mouth of the American River	56	All Years		-2.6	0.0	0.0	0.0	1.2	1.4					
				70	All Years		0.0	0.0	0.0	0.0	0.0	0.0					
				52	All Years				0.0	0.4	3.3	-0.7					
Adult Spawning	January	Monthly mean water	American River at Watt Avenue	54	All Years				0.0	0.0	-1.9	-0.4					
, ,	through April	temperatures (°F)		57	All Years				0.0	0.0	0.2	-0.2					
				60	All Years				0.0	0.0	0.0	-0.6					
				52	All Years				0.0	0.4	3.3	-0.7	-0.1				
Embryo Incubation	January through May	Monthly mean water temperatures (°F)	American River at Watt Avenue	54	All Years				0.0	0.0	-1.9	-0.4	-0.9				
	unoughway	temperatures ( F)		57	All Years				0.0	0.0	0.2	-0.2 -0.6	3.4 -1.8				
				60 65	All Years All Years	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.8 -1.5	-1.0	-0.3	-3.5	-3.1
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	-0.3	-2.3	-1.3
			American River at Nimbus Dam	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.0	-0.7
				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	0.0
		-		65	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-3.0	-2.5	3.7	-3.8
Juvenile Rearing		Monthly mean water		68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.4	1.4	0.6	-2.7
and Emigration	Year-round	temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	-1.5	-2.0
g				75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.1	-1.4
		•		65	All Years	-2.5	0.0	0.0	0.0	0.0	0.0	0.5	-0.8	2.1	0.0	-0.7	-2.1
				68	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	1,5	-2.3	-2.1	2.1
			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.6	-0.9	-2.1
	1			75	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.4	-0.4	-1.7
	Ì		American Disease May Ass	52	All Years				0.0	0.4	3.3	-0.7	-0.1	0.0			
O	January	Monthly mean water	American River at Watt Avenue	55	All Years				0.0	0.0	0.7	4.2	1.7	-0.1			
Smolt Emigration	through June	temperatures (°F)	Mouth of the American River	52	All Years				0.0	-0.9	-0.8	0.0	0.0	0.0			
			Mouth of the American River	55	All Years				0.0	0.0	-0.1	-1.4	-0.1	0.0			

Table AQ-T-5-9d Green Sturgeon in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative D	relative to t	he No Action	Alternative	!	
Lifestage	Period	Impact Indicator	Description	Value (°F)	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Immigration and Holding	February through December	Monthly mean water temperatures (°F)	Mouth of the American River	61	All Years	-7.3	0.0	0.0		0.0	0.0	-1.5	1.1	0.2	0.0	0.0	0.0
Adult Spawning and Egg Incubation	March through August	Monthly mean water temperatures (°F)	Mouth of the American River	68	All Years						0.0	0.0	-0.9	1.5	-2.3	-2.1	
Juvenile Rearing and Emigration	Year-round	Monthly mean water temperatures (°F)	Mouth of the American River	66	All Years	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.7	-0.9	-3.5	5.2

Table AQ-T-5-9e
Pacific Lamprey in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	ty of Exceed	ance under	Alternative D	relative to t	he No Actio	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A de la Consessione	I	Manufaltering	Nimbus Dam Release	50-64	All Years				0.4	0.9	4.5	-0.1	0.9	-0.2	-0.3	1.7	
		Monthly mean water temperatures (°F)	American River at Watt Avenue	50-64	All Years				-0.7	0.3	-1.1	-0.7	-1.0	-3.5	-0.6	2.2	
Adult Spawning Jan and Egg Incubation through	illiougii August	temperatures ( 1 )	Mouth of the American River	50-64	All Years				0.4	-2.7	0.0	-0.2	-2.7	-0.4	0.2	0.0	
Ammocoete			Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.0	-0.7
Rearing and	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	-1.5	-2.0
Emigration		temperatures (1)	Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.6	-0.9	-2.1

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

Table AQ-T-5-9f River Lamprey in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under /	Alternative D	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
			Nimbus Dam Release	50-64	All Years					0.9	4.5	-0.1	0.9	-0.2	-0.3		
Adult Spawning	February	Monthly mean water	American River at Watt Avenue	50-64	All Years					0.3	-1.1	-0.7	-1.0	-3.5	-0.6		
	through July	temperatures (°F)	Mouth of the American River	50-64	All Years					-2.7	0.0	-0.2	-2.7	-0.4	0.2		
Ammocoete		Monthly mean water	Nimbus Dam Release	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.0	-0.7
Rearing and Emigration	Year-round	temperatures (°F)	American River at Watt Avenue	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	-1.5	-2.0
Emigration			Mouth of the American River	72	All Years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.6	-0.9	-2.1

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

# Table AQ-T-5-9g

## Hardhead in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative D	relative to t	he No Action	Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adults and Other Lifestages	Year-round	Monthly mean water temperatures (°F)	American River at Watt Avenue	65-82	All Years	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-3.0	-2.5	3.8	-3.8
Adult Spawning	April through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-64	All Years							0.8	-1.7	-3.0			

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

Table AQ-T-5-9i

# Splittail in the Lower American River

1 % - 04	Evaluation	lance and her diseases	Location	Criteria	B			Net Change	in Probabili	ty of Exceed	ance under	Alternative D	relative to t	he No Action	n Alternative		
Life Stage	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)	Mouth of the American River	45-75	All Years					0.0	0.0	0.0	0.0				

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

Table AQ-T-5-9j Striped Bass in the Lower American River

	Evaluation		Location	Criteria				Net Change	in Probabili	ty of Exceed	ance under	Alternative D	relative to t	he No Action	n Alternative	1	
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	59-68	All Years							1.5	0.3	0.9			
Embryo Incubation, and Initial Rearing	lung	temperatures (°F)	Mouth of the American River	59-68	All Years							2.8	3.4	-1.6			
Larvae, Fry, and Juvenile Rearing		Monthly mean water temperatures (°F)	American River at Watt Avenue	61-71	All Years	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	3.7	0.9	1.3	1.9
and Emigration			Mouth of the American River	61-71	All Years	-7.3	0.0	0.0	0.0	0.0	0.0	-1.5	2.6	1.0	1.0	1.5	0.1

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

Table AQ-T-5-9k American Shad in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabili	y of Exceed	ance under	Alternative D	relative to t	he No Action	Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Adult Spawning,	April through	Monthly mean water	American River at Watt Avenue	60-70	All Years							-0.6	-1.8	3.4			
Embryo Incubation, and Initial Rearing		temperatures (°F)	Mouth of the American River	60-70	All Years							2.7	0.3	0.4			
Larvae, Fry, and	July through	Monthly mean water	American River at Watt Avenue	63-77	All Years	-2.6	0.0								3.3	-0.4	-0.7
Juvenile Rearing and Emigration	November	temperatures (°F)	Mouth of the American River	63-77	All Years	-6.9	0.0								-0.7	0.9	0.0

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

Table AQ-T-5-9l Largemouth Bass in the Lower American River

	Evaluation		Location	Criteria	_			Net Change	in Probabilit	y of Exceed	ance under	Alternative D	relative to t	he No Action	n Alternative		
Life Stage	Period	Impact Indicator	Description	Value	Range	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
Spawning	March through June	Monthly mean water temperatures (°F)	American River at Watt Avenue	59-75	All Years						0.0	1.5	-0.7	0.5			

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

