

Appendix 11Q Other Delta Species Analyses

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11Q.1 Introduction

This appendix describes several methods used for analysis of potential effects of Alternatives 1, 2, and 3 (herein identified as Alternatives 1–3) in the Delta: the salvage-density method, X2-abundance index regressions, and the threadfin shad south Sacramento–San Joaquin Delta (Delta) entrainment risk analysis.

11Q.2 Salvage-Density Method

The salvage-density method was used recently by the California Department of Water Resources (2020:E-87). The method was as follows:

- All data were downloaded from <https://apps.wildlife.ca.gov/Salvage>¹;
- Water years 2009–2020 were included, as these water years were complete, and the water year type was known (<http://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST>);
- Juvenile salmonids with clipped and unclipped adipose fins were included, as together they represent hatchery-origin and wild fish that are all part of the Evolutionarily Significant Unit (ESU);
- Daily salvage (or loss for juvenile salmonids) density (fish per thousand acre-feet of water exported) was calculated for the State Water Project and Central Valley Project south Delta export facilities;
- The daily loss density values for each month, facility, and water year type were multiplied by the CALSIM-modeled exports for the No Action Alternative (NAA)² and Alternatives 1–3; there were no Above Normal Water Years from 2009 to 2020, so the monthly pattern for Wet Water Years was used, and only percentage difference was reported in the results.

The salvage-density method gives outputs in terms of numbers of fish salvaged (or lost), but these outputs are not predictions of future entrainment but rather differences in south Delta exports between alternatives weighted by historical salvage or loss density of fish.

¹ This website includes salvage density for all species and loss density for salmonids; the latter was used in this analysis.

² The term *NAA*, which is identical to the No Project Alternative, is used throughout Chapter 11, *Aquatic Biological Resources*, and associated aquatic resources appendices in the presentation of modeled results and represents no material difference from the No Project Alternative, as discussed in Chapter 3, *Environmental Analysis*.

Results from the salvage-density method averaged by water year type are presented in the main body of Chapter 11, *Aquatic Biological Resources*. In addition, this appendix presents results averaged by water year type and month (Tables 11Q-1 through 11Q-32).

Table 11Q-1. Entrainment Loss of Juvenile Winter-Run Chinook Salmon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	180	180 (0%)	180 (0%)	180 (0%)	180 (0%)
Wet	Feb	527	526 (0%)	527 (0%)	526 (0%)	525 (0%)
Wet	Mar	1,224	1,228 (0%)	1,218 (0%)	1,227 (0%)	1,236 (1%)
Wet	Apr	104	104 (0%)	104 (0%)	104 (0%)	104 (0%)
Wet	May	4	4 (0%)	4 (0%)	4 (0%)	4 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	254	253 (0%)	253 (0%)	253 (0%)	254 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	217	217 (0%)	217 (0%)	217 (0%)	217 (0%)
Below Normal	Feb	859	861 (0%)	861 (0%)	858 (0%)	851 (-1%)
Below Normal	Mar	870	871 (0%)	878 (1%)	871 (0%)	864 (-1%)
Below Normal	Apr	44	44 (0%)	44 (0%)	44 (0%)	44 (0%)
Below Normal	May	12	12 (0%)	12 (-1%)	12 (0%)	12 (-1%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	5	5 (0%)	5 (0%)	5 (0%)	5 (2%)
Dry	Jan	108	109 (1%)	109 (1%)	108 (0%)	109 (1%)
Dry	Feb	127	128 (1%)	128 (1%)	126 (0%)	125 (-2%)
Dry	Mar	690	690 (0%)	690 (0%)	690 (0%)	686 (-1%)
Dry	Apr	15	15 (0%)	15 (0%)	15 (0%)	15 (1%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	155	146 (-6%)	127 (-18%)	147 (-5%)	131 (-15%)
Critically Dry	Jan	104	104 (0%)	104 (0%)	105 (1%)	104 (0%)
Critically Dry	Feb	122	122 (0%)	122 (0%)	122 (0%)	122 (0%)
Critically Dry	Mar	615	632 (3%)	632 (3%)	636 (3%)	627 (2%)
Critically Dry	Apr	13	13 (0%)	13 (0%)	13 (0%)	13 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	131	134 (3%)	133 (2%)	133 (2%)	132 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-2. Entrainment Loss of Juvenile Winter-Run Chinook Salmon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	37	37 (0%)	37 (0%)	37 (0%)	37 (0%)
Wet	Feb	61	61 (0%)	61 (0%)	61 (0%)	61 (0%)
Wet	Mar	116	113 (-2%)	114 (-1%)	114 (-2%)	111 (-4%)
Wet	Apr	3	3 (-1%)	3 (-1%)	3 (-1%)	3 (-4%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	55	55 (0%)	55 (0%)	55 (0%)	55 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	124	124 (0%)	124 (0%)	125 (0%)	125 (0%)
Below Normal	Feb	164	163 (-1%)	163 (-1%)	164 (0%)	168 (2%)
Below Normal	Mar	207	207 (0%)	207 (0%)	207 (0%)	208 (0%)
Below Normal	Apr	32	32 (0%)	33 (0%)	32 (0%)	33 (1%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	1	1 (1%)	1 (-6%)	1 (1%)	1 (-6%)
Dry	Jan	86	85 (0%)	85 (0%)	86 (0%)	86 (0%)
Dry	Feb	74	74 (-1%)	74 (-1%)	74 (0%)	76 (2%)
Dry	Mar	125	125 (0%)	125 (0%)	125 (0%)	126 (0%)
Dry	Apr	6	6 (0%)	6 (0%)	6 (0%)	6 (1%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	17	17 (1%)	16 (-6%)	17 (1%)	16 (-6%)
Critically Dry	Jan	29	30 (1%)	30 (2%)	29 (0%)	29 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	30	30 (0%)	34 (11%)	30 (0%)	34 (12%)
Critically Dry	Apr	3	3 (0%)	3 (-1%)	3 (0%)	3 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	9	9 (1%)	9 (1%)	9 (0%)	9 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-3. Entrainment Loss of Juvenile Spring-Run Chinook Salmon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Wet	Feb	61	60 (0%)	61 (0%)	60 (0%)	60 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Mar	1,565	1,569 (0%)	1,557 (0%)	1,568 (0%)	1,581 (1%)
Wet	Apr	13,576	13,576 (0%)	13,572 (0%)	13,576 (0%)	13,580 (0%)
Wet	May	28,300	28,426 (0%)	28,352 (0%)	28,426 (0%)	28,288 (0%)
Wet	Jun	1,951	1,951 (0%)	1,949 (0%)	1,951 (0%)	1,948 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	725	726 (0%)	732 (1%)	726 (0%)	721 (-1%)
Below Normal	Apr	2,692	2,692 (0%)	2,691 (0%)	2,694 (0%)	2,690 (0%)
Below Normal	May	1,400	1,399 (0%)	1,393 (-1%)	1,404 (0%)	1,380 (-1%)
Below Normal	Jun	17	18 (1%)	17 (0%)	18 (1%)	18 (5%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	132	132 (0%)	132 (0%)	132 (0%)	131 (-1%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Apr	1,949	1,951 (0%)	1,940 (0%)	1,951 (0%)	1,961 (1%)
Dry	May	615	615 (0%)	616 (0%)	615 (0%)	615 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	117	121 (3%)	121 (3%)	121 (3%)	120 (2%)
Critically Dry	Apr	1,658	1,658 (0%)	1,658 (0%)	1,658 (0%)	1,658 (0%)
Critically Dry	May	486	485 (0%)	470 (-3%)	485 (0%)	469 (-3%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports. High absolute estimates of spring-run Chinook salmon juvenile loss reflect length-at-date misclassification of fall-run Chinook salmon (Harvey et al. 2014).

Table 11Q-4. Entrainment Loss of Juvenile Spring-Run Chinook Salmon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Wet	Feb	15	15 (0%)	15 (0%)	15 (0%)	15 (0%)
Wet	Mar	180	177 (-2%)	178 (-1%)	177 (-2%)	173 (-4%)
Wet	Apr	1,888	1,877 (-1%)	1,869 (-1%)	1,877 (-1%)	1,805 (-4%)
Wet	May	5,623	5,634 (0%)	5,636 (0%)	5,634 (0%)	5,621 (0%)
Wet	Jun	402	402 (0%)	402 (0%)	402 (0%)	402 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	9	9 (0%)	9 (0%)	9 (0%)	9 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Below Normal	Feb	6	6 (-1%)	6 (-1%)	6 (0%)	6 (2%)
Below Normal	Mar	534	534 (0%)	534 (0%)	534 (0%)	536 (0%)
Below Normal	Apr	1,570	1,572 (0%)	1,573 (0%)	1,572 (0%)	1,586 (1%)
Below Normal	May	1,115	1,118 (0%)	1,151 (3%)	1,118 (0%)	1,156 (4%)
Below Normal	Jun	9	9 (0%)	9 (1%)	9 (0%)	10 (4%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	180	180 (0%)	180 (0%)	180 (0%)	181 (0%)
Dry	Apr	1,920	1,922 (0%)	1,923 (0%)	1,922 (0%)	1,939 (1%)
Dry	May	884	887 (0%)	913 (3%)	887 (0%)	917 (4%)
Dry	Jun	5	5 (0%)	6 (1%)	5 (0%)	6 (4%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	39	39 (0%)	43 (11%)	39 (0%)	44 (12%)
Critically Dry	Apr	75	75 (0%)	75 (-1%)	75 (0%)	75 (0%)
Critically Dry	May	17	17 (0%)	17 (1%)	17 (0%)	17 (1%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports. High absolute estimates of spring-run Chinook salmon juvenile loss reflect length-at-date misclassification of fall-run Chinook salmon (Harvey et al. 2014).

Table 11Q-5. Entrainment Loss of Juvenile Fall-Run Chinook Salmon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	1,117	1,118 (0%)	1,117 (0%)	1,117 (0%)	1,117 (0%)
Wet	Feb	2,707	2,703 (0%)	2,708 (0%)	2,703 (0%)	2,700 (0%)
Wet	Mar	331	332 (0%)	329 (0%)	332 (0%)	334 (1%)
Wet	Apr	421	421 (0%)	421 (0%)	421 (0%)	422 (0%)
Wet	May	9,813	9,856 (0%)	9,831 (0%)	9,857 (0%)	9,809 (0%)
Wet	Jun	7,622	7,624 (0%)	7,613 (0%)	7,624 (0%)	7,612 (0%)
Wet	Jul	10	10 (0%)	10 (1%)	10 (0%)	10 (1%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	89	89 (0%)	89 (0%)	89 (0%)	89 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	10	10 (0%)	10 (0%)	10 (0%)	10 (-1%)
Below Normal	Mar	91	92 (0%)	92 (1%)	92 (0%)	91 (-1%)
Below Normal	Apr	990	990 (0%)	990 (0%)	991 (0%)	989 (0%)
Below Normal	May	2,580	2,577 (0%)	2,566 (-1%)	2,587 (0%)	2,543 (-1%)
Below Normal	Jun	253	256 (1%)	253 (0%)	256 (1%)	266 (5%)
Below Normal	Jul	4	4 (0%)	4 (0%)	4 (0%)	4 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	7	7 (0%)	7 (0%)	7 (0%)	7 (2%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	12	12 (1%)	12 (1%)	11 (0%)	11 (-2%)
Dry	Mar	40	40 (0%)	40 (0%)	40 (0%)	40 (-1%)
Dry	Apr	937	938 (0%)	932 (0%)	938 (0%)	942 (1%)
Dry	May	1,752	1,753 (0%)	1,754 (0%)	1,753 (0%)	1,754 (0%)
Dry	Jun	25	25 (-1%)	25 (-1%)	25 (-1%)	24 (-5%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Dec	531	502 (-6%)	435 (-18%)	504 (-5%)	450 (-15%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	11	11 (0%)	11 (0%)	11 (0%)	11 (0%)
Critically Dry	Mar	36	37 (3%)	37 (3%)	37 (3%)	36 (2%)
Critically Dry	Apr	797	797 (0%)	797 (0%)	797 (0%)	797 (0%)
Critically Dry	May	1,384	1,383 (0%)	1,338 (-3%)	1,383 (0%)	1,336 (-3%)
Critically Dry	Jun	16	16 (0%)	16 (1%)	16 (0%)	16 (1%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	448	459 (3%)	457 (2%)	455 (2%)	451 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-6. Entrainment Loss of Juvenile Fall-Run Chinook Salmon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	745	745 (0%)	745 (0%)	745 (0%)	745 (0%)
Wet	Feb	798	798 (0%)	798 (0%)	797 (0%)	797 (0%)
Wet	Mar	186	182 (-2%)	183 (-1%)	182 (-2%)	178 (-4%)
Wet	Apr	85	84 (-1%)	84 (-1%)	84 (-1%)	81 (-4%)
Wet	May	4,516	4,525 (0%)	4,526 (0%)	4,525 (0%)	4,514 (0%)
Wet	Jun	2,755	2,755 (0%)	2,758 (0%)	2,755 (0%)	2,758 (0%)
Wet	Jul	35	35 (0%)	35 (0%)	35 (0%)	35 (0%)
Wet	Aug	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Dec	17	17 (0%)	17 (0%)	17 (0%)	17 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	8	8 (0%)	8 (0%)	8 (0%)	8 (0%)
Below Normal	Feb	17	17 (-1%)	16 (-1%)	17 (0%)	17 (2%)
Below Normal	Mar	110	110 (0%)	110 (0%)	110 (0%)	111 (0%)
Below Normal	Apr	686	687 (0%)	687 (0%)	687 (0%)	693 (1%)
Below Normal	May	1,821	1,826 (0%)	1,879 (3%)	1,826 (0%)	1,888 (4%)
Below Normal	Jun	158	158 (0%)	160 (1%)	158 (0%)	164 (4%)
Below Normal	Jul	1	1 (1%)	1 (1%)	1 (1%)	2 (4%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	4	4 (0%)	4 (0%)	4 (0%)	4 (0%)
Dry	Feb	5	5 (-1%)	5 (-1%)	5 (0%)	6 (2%)
Dry	Mar	21	21 (0%)	21 (0%)	21 (0%)	21 (0%)
Dry	Apr	1,661	1,662 (0%)	1,664 (0%)	1,662 (0%)	1,677 (1%)
Dry	May	2,261	2,267 (0%)	2,333 (3%)	2,267 (0%)	2,344 (4%)
Dry	Jun	37	37 (0%)	37 (1%)	37 (0%)	38 (4%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	30	30 (1%)	28 (-6%)	30 (1%)	28 (-6%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	10	10 (0%)	10 (0%)	10 (0%)	10 (0%)
Critically Dry	Mar	9	9 (0%)	10 (11%)	9 (0%)	10 (12%)
Critically Dry	Apr	74	74 (0%)	74 (-1%)	74 (0%)	74 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	May	66	66 (0%)	66 (1%)	66 (0%)	67 (1%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-7. Entrainment Loss of Juvenile Late Fall–Run Chinook Salmon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	605	606 (0%)	605 (0%)	606 (0%)	605 (0%)
Wet	Feb	87	87 (0%)	88 (0%)	87 (0%)	87 (0%)
Wet	Mar	9	9 (0%)	9 (0%)	9 (0%)	9 (1%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	976	975 (0%)	973 (0%)	975 (0%)	976 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	169	169 (0%)	169 (0%)	169 (0%)	169 (0%)
Below Normal	Feb	148	148 (0%)	148 (0%)	148 (0%)	146 (-1%)
Below Normal	Mar	20	20 (0%)	21 (1%)	20 (0%)	20 (-1%)
Below Normal	Apr	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	120	120 (0%)	120 (0%)	120 (0%)	123 (2%)
Dry	Jan	20	20 (1%)	20 (1%)	20 (0%)	20 (1%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	1,131	1,068 (-6%)	926 (-18%)	1,074 (-5%)	957 (-15%)
Critically Dry	Jan	19	19 (0%)	19 (0%)	20 (1%)	19 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	954	978 (3%)	974 (2%)	968 (2%)	961 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-8. Entrainment Loss of Juvenile Late Fall–Run Chinook Salmon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	73	73 (0%)	73 (0%)	73 (0%)	73 (0%)
Wet	Feb	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	1	1 (3%)	1 (3%)	1 (3%)	1 (3%)
Wet	Nov	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Dec	221	221 (0%)	221 (0%)	221 (0%)	221 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	58	58 (0%)	58 (0%)	58 (0%)	58 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Feb	8	8 (-1%)	8 (-1%)	8 (0%)	8 (2%)
Below Normal	Mar	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (1%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	7	7 (1%)	6 (-6%)	7 (1%)	6 (-6%)
Dry	Jan	8	8 (0%)	8 (0%)	8 (0%)	8 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	87	88 (1%)	82 (-6%)	87 (1%)	82 (-6%)
Critically Dry	Jan	6	6 (1%)	6 (2%)	6 (0%)	6 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	20	21 (1%)	21 (1%)	20 (0%)	22 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years;

hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-9. Entrainment Loss of Juvenile Steelhead at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	286	287 (0%)	286 (0%)	286 (0%)	286 (0%)
Wet	Feb	2,049	2,046 (0%)	2,049 (0%)	2,046 (0%)	2,044 (0%)
Wet	Mar	967	970 (0%)	963 (0%)	970 (0%)	977 (1%)
Wet	Apr	1,136	1,136 (0%)	1,136 (0%)	1,136 (0%)	1,136 (0%)
Wet	May	480	482 (0%)	481 (0%)	482 (0%)	480 (0%)
Wet	Jun	240	240 (0%)	240 (0%)	240 (0%)	240 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	8	8 (0%)	8 (0%)	8 (0%)	8 (0%)
Wet	Oct	5	5 (1%)	5 (1%)	5 (0%)	5 (2%)
Wet	Nov	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Wet	Dec	10	10 (0%)	10 (0%)	10 (0%)	10 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	286	286 (0%)	286 (0%)	286 (0%)	286 (0%)
Below Normal	Feb	1,836	1,842 (0%)	1,840 (0%)	1,834 (0%)	1,818 (-1%)
Below Normal	Mar	1,528	1,529 (0%)	1,542 (1%)	1,529 (0%)	1,519 (-1%)
Below Normal	Apr	517	517 (0%)	517 (0%)	517 (0%)	517 (0%)
Below Normal	May	168	168 (0%)	167 (-1%)	168 (0%)	165 (-1%)
Below Normal	Jun	51	52 (1%)	51 (0%)	52 (1%)	54 (5%)
Below Normal	Jul	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	8	8 (0%)	8 (0%)	8 (0%)	8 (2%)
Dry	Jan	146	148 (1%)	147 (1%)	147 (0%)	147 (1%)
Dry	Feb	533	538 (1%)	539 (1%)	531 (0%)	524 (-2%)
Dry	Mar	1,001	1,000 (0%)	1,000 (0%)	1,000 (0%)	995 (-1%)
Dry	Apr	398	398 (0%)	396 (0%)	398 (0%)	400 (1%)
Dry	May	144	144 (0%)	144 (0%)	144 (0%)	144 (0%)
Dry	Jun	47	47 (-1%)	47 (-1%)	47 (-1%)	45 (-5%)
Dry	Jul	17	20 (17%)	20 (18%)	20 (17%)	20 (18%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	7	8 (13%)	8 (12%)	8 (11%)	8 (8%)
Dry	Dec	34	32 (-6%)	28 (-18%)	32 (-5%)	29 (-15%)
Critically Dry	Jan	141	140 (0%)	140 (0%)	142 (1%)	140 (0%)
Critically Dry	Feb	513	513 (0%)	513 (0%)	513 (0%)	515 (0%)
Critically Dry	Mar	891	916 (3%)	916 (3%)	922 (3%)	910 (2%)
Critically Dry	Apr	338	338 (0%)	338 (0%)	338 (0%)	338 (0%)
Critically Dry	May	114	113 (0%)	110 (-3%)	113 (0%)	110 (-3%)
Critically Dry	Jun	29	29 (0%)	30 (1%)	29 (0%)	29 (1%)
Critically Dry	Jul	4	7 (74%)	7 (70%)	7 (70%)	7 (70%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	4	4 (4%)	4 (5%)	4 (6%)	4 (4%)
Critically Dry	Dec	29	29 (3%)	29 (2%)	29 (2%)	29 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-10. Entrainment Loss of Juvenile Steelhead at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	49	49 (0%)	49 (0%)	49 (0%)	49 (0%)
Wet	Feb	168	168 (0%)	168 (0%)	168 (0%)	168 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Mar	43	42 (-2%)	42 (-1%)	42 (-2%)	41 (-4%)
Wet	Apr	13	13 (-1%)	13 (-1%)	13 (-1%)	12 (-4%)
Wet	May	33	33 (0%)	33 (0%)	33 (0%)	33 (0%)
Wet	Jun	30	30 (0%)	30 (0%)	30 (0%)	30 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	54	54 (0%)	54 (0%)	54 (0%)	54 (0%)
Below Normal	Feb	479	476 (-1%)	476 (-1%)	480 (0%)	490 (2%)
Below Normal	Mar	233	233 (0%)	233 (0%)	233 (0%)	233 (0%)
Below Normal	Apr	102	102 (0%)	102 (0%)	102 (0%)	103 (1%)
Below Normal	May	62	62 (0%)	64 (3%)	62 (0%)	64 (4%)
Below Normal	Jun	10	10 (0%)	10 (1%)	10 (0%)	10 (4%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	35	35 (0%)	35 (0%)	35 (0%)	35 (0%)
Dry	Feb	155	154 (-1%)	154 (-1%)	156 (0%)	159 (2%)
Dry	Mar	273	273 (0%)	273 (0%)	273 (0%)	274 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Apr	104	104 (0%)	104 (0%)	104 (0%)	105 (1%)
Dry	May	71	71 (0%)	73 (3%)	71 (0%)	73 (4%)
Dry	Jun	11	11 (0%)	11 (1%)	11 (0%)	11 (4%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	7	7 (1%)	7 (-6%)	7 (1%)	7 (-6%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	79	79 (0%)	79 (0%)	79 (0%)	79 (0%)
Critically Dry	Mar	61	61 (0%)	67 (11%)	61 (0%)	68 (12%)
Critically Dry	Apr	26	26 (0%)	26 (-1%)	26 (0%)	26 (0%)
Critically Dry	May	9	9 (0%)	9 (1%)	9 (0%)	9 (1%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-11. Salvage of Juvenile Green Sturgeon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	1	1 (0%)	1 (0%)	1 (0%)	1 (1%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-12. Salvage of Juvenile Green Sturgeon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	7	7 (0%)	7 (0%)	7 (0%)	7 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-13. Salvage of Juvenile White Sturgeon at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Wet	Feb	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Mar	2	2 (0%)	2 (0%)	2 (0%)	3 (1%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Jun	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Jul	3	3 (0%)	3 (1%)	3 (0%)	3 (1%)
Wet	Aug	2	2 (0%)	2 (1%)	2 (0%)	2 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	1	1 (0%)	1 (1%)	1 (0%)	1 (-1%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	4	4 (1%)	4 (0%)	4 (1%)	4 (5%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	2	2 (14%)	3 (14%)	2 (14%)	2 (9%)
Below Normal	Dec	3	3 (0%)	3 (0%)	3 (0%)	3 (2%)
Dry	Jan	3	3 (1%)	3 (1%)	3 (0%)	3 (1%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	3	3 (0%)	3 (0%)	3 (1%)	3 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	1	1 (0%)	1 (-3%)	1 (0%)	1 (-3%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-14. Salvage of Juvenile White Sturgeon at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Wet	Jun	24	24 (0%)	24 (0%)	24 (0%)	24 (0%)
Wet	Jul	16	16 (0%)	16 (0%)	16 (0%)	16 (0%)
Wet	Aug	21	21 (0%)	21 (0%)	21 (0%)	21 (0%)
Wet	Sep	10	10 (0%)	10 (0%)	10 (0%)	10 (0%)
Wet	Oct	1	1 (3%)	1 (3%)	1 (3%)	1 (3%)
Wet	Nov	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	2	2 (-1%)	2 (-1%)	2 (0%)	2 (2%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	1	1 (0%)	1 (3%)	1 (0%)	1 (4%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	10	10 (3%)	10 (4%)	10 (4%)	11 (14%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	2	2 (1%)	2 (-6%)	2 (1%)	2 (-6%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	2	2 (2%)	2 (7%)	2 (3%)	2 (19%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years;

hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-15. Salvage of Pacific Lamprey at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-16. Salvage of Pacific Lamprey at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	19	19 (0%)	19 (0%)	19 (0%)	19 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Mar	10	10 (-2%)	10 (-1%)	10 (-2%)	10 (-4%)
Wet	Apr	4	4 (-1%)	4 (-1%)	4 (-1%)	4 (-4%)
Wet	May	12	12 (0%)	12 (0%)	12 (0%)	12 (0%)
Wet	Jun	16	16 (0%)	16 (0%)	16 (0%)	16 (0%)
Wet	Jul	12	12 (0%)	12 (0%)	12 (0%)	12 (0%)
Wet	Aug	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	367	366 (0%)	367 (0%)	368 (0%)	368 (0%)
Below Normal	Feb	23	23 (-1%)	23 (-1%)	23 (0%)	24 (2%)
Below Normal	Mar	291	291 (0%)	291 (0%)	291 (0%)	292 (0%)
Below Normal	Apr	8	8 (0%)	8 (0%)	8 (0%)	8 (1%)
Below Normal	May	34	34 (0%)	35 (3%)	34 (0%)	35 (4%)
Below Normal	Jun	18	18 (0%)	18 (1%)	18 (0%)	19 (4%)
Below Normal	Jul	27	27 (1%)	27 (1%)	27 (1%)	28 (4%)
Below Normal	Aug	1	1 (1%)	1 (-1%)	1 (1%)	1 (1%)
Below Normal	Sep	1	1 (3%)	1 (3%)	1 (3%)	1 (2%)
Below Normal	Oct	3	3 (3%)	3 (4%)	3 (4%)	3 (14%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	14	14 (0%)	14 (1%)	14 (0%)	15 (4%)
Dry	Jul	6	6 (1%)	6 (1%)	6 (1%)	6 (4%)
Dry	Aug	1	2 (1%)	1 (-1%)	2 (1%)	2 (1%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	72	72 (0%)	80 (11%)	72 (0%)	81 (12%)
Critically Dry	Apr	70	70 (0%)	69 (-1%)	70 (0%)	70 (0%)
Critically Dry	May	163	163 (0%)	164 (1%)	163 (0%)	165 (1%)
Critically Dry	Jun	13	13 (0%)	13 (-2%)	13 (0%)	12 (-5%)
Critically Dry	Jul	9	9 (1%)	9 (-1%)	9 (2%)	9 (-6%)
Critically Dry	Aug	18	18 (1%)	18 (0%)	18 (1%)	18 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	27	27 (1%)	27 (1%)	27 (0%)	28 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-17. Salvage of River Lamprey at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-18. Salvage of River Lamprey at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	4	4 (0%)	5 (11%)	4 (0%)	5 (12%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-19. Salvage of Unknown Species of Lamprey at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	579	579 (0%)	579 (0%)	579 (0%)	579 (0%)
Wet	Feb	108	108 (0%)	108 (0%)	108 (0%)	108 (0%)
Wet	Mar	19	19 (0%)	19 (0%)	19 (0%)	19 (1%)
Wet	Apr	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Wet	May	24	24 (0%)	24 (0%)	24 (0%)	24 (0%)
Wet	Jun	93	93 (0%)	93 (0%)	93 (0%)	93 (0%)
Wet	Jul	20	20 (0%)	20 (1%)	20 (0%)	20 (1%)
Wet	Aug	7	7 (0%)	7 (1%)	7 (0%)	7 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	13	13 (0%)	13 (0%)	13 (0%)	13 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	54	54 (0%)	54 (0%)	54 (0%)	54 (0%)
Below Normal	Feb	2	2 (0%)	2 (0%)	2 (0%)	2 (-1%)
Below Normal	Mar	28	28 (0%)	28 (1%)	28 (0%)	28 (-1%)
Below Normal	Apr	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Below Normal	May	5	5 (0%)	5 (-1%)	5 (0%)	5 (-1%)
Below Normal	Jun	46	46 (1%)	46 (0%)	46 (1%)	48 (5%)
Below Normal	Jul	17	17 (0%)	17 (0%)	17 (0%)	17 (0%)
Below Normal	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	5	5 (0%)	5 (0%)	5 (0%)	5 (-1%)
Dry	Apr	29	29 (0%)	28 (0%)	29 (0%)	29 (1%)
Dry	May	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	1	1 (17%)	1 (18%)	1 (17%)	1 (18%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Dec	19	18 (-6%)	16 (-18%)	18 (-5%)	16 (-15%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	4	4 (3%)	4 (3%)	4 (3%)	4 (2%)
Critically Dry	Apr	24	24 (0%)	24 (0%)	24 (0%)	24 (0%)
Critically Dry	May	4	4 (0%)	4 (-3%)	4 (0%)	4 (-3%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (74%)	0 (70%)	0 (70%)	0 (70%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	16	17 (3%)	17 (2%)	17 (2%)	16 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-20. Salvage of Unknown Species of Lamprey at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	4,900	4,900 (0%)	4,900 (0%)	4,900 (0%)	4,900 (0%)
Wet	Feb	1,991	1,991 (0%)	1,991 (0%)	1,987 (0%)	1,989 (0%)
Wet	Mar	549	538 (-2%)	541 (-1%)	538 (-2%)	526 (-4%)
Wet	Apr	20	20 (-1%)	20 (-1%)	20 (-1%)	19 (-4%)
Wet	May	16	16 (0%)	16 (0%)	16 (0%)	16 (0%)
Wet	Jun	95	95 (0%)	95 (0%)	95 (0%)	95 (0%)
Wet	Jul	15	15 (0%)	15 (0%)	15 (0%)	15 (0%)
Wet	Aug	8	8 (0%)	8 (0%)	8 (0%)	8 (0%)
Wet	Sep	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Oct	1	1 (3%)	1 (3%)	1 (3%)	1 (3%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	29	29 (0%)	29 (0%)	29 (0%)	29 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	1,388	1,384 (0%)	1,387 (0%)	1,391 (0%)	1,393 (0%)
Below Normal	Feb	32	31 (-1%)	31 (-1%)	32 (0%)	32 (2%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Mar	187	187 (0%)	187 (0%)	187 (0%)	188 (0%)
Below Normal	Apr	53	53 (0%)	53 (0%)	53 (0%)	54 (1%)
Below Normal	May	5	5 (0%)	5 (3%)	5 (0%)	5 (4%)
Below Normal	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Jul	13	13 (1%)	13 (1%)	13 (1%)	14 (4%)
Below Normal	Aug	1	1 (1%)	1 (-1%)	1 (1%)	1 (1%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	10	10 (0%)	10 (0%)	10 (0%)	10 (0%)
Dry	Feb	28	27 (-1%)	27 (-1%)	28 (0%)	28 (2%)
Dry	Mar	72	72 (0%)	72 (0%)	72 (0%)	72 (0%)
Dry	Apr	97	97 (0%)	97 (0%)	97 (0%)	98 (1%)
Dry	May	62	62 (0%)	64 (3%)	62 (0%)	64 (4%)
Dry	Jun	10	10 (0%)	11 (1%)	10 (0%)	11 (4%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	6	6 (2%)	6 (7%)	6 (3%)	7 (19%)
Dry	Dec	1,272	1,285 (1%)	1,197 (-6%)	1,279 (1%)	1,199 (-6%)
Critically Dry	Jan	17	17 (1%)	17 (2%)	17 (0%)	17 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	6	6 (0%)	6 (11%)	6 (0%)	6 (12%)
Critically Dry	Apr	9	9 (0%)	9 (-1%)	9 (0%)	9 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	3	3 (1%)	3 (-1%)	3 (2%)	3 (-6%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	3	3 (1%)	3 (1%)	3 (0%)	3 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years;

hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-21. Salvage of Sacramento Splittail at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	504	504 (0%)	504 (0%)	504 (0%)	504 (0%)
Wet	Feb	670	669 (0%)	670 (0%)	669 (0%)	668 (0%)
Wet	Mar	252	253 (0%)	251 (0%)	253 (0%)	255 (1%)
Wet	Apr	1,781	1,781 (0%)	1,780 (0%)	1,781 (0%)	1,781 (0%)
Wet	May	459,137	461,173 (0%)	459,985 (0%)	461,176 (0%)	458,943 (0%)
Wet	Jun	148,684	148,719 (0%)	148,504 (0%)	148,719 (0%)	148,497 (0%)
Wet	Jul	46,309	46,448 (0%)	46,645 (1%)	46,448 (0%)	46,562 (1%)
Wet	Aug	4,310	4,312 (0%)	4,334 (1%)	4,312 (0%)	4,328 (0%)
Wet	Sep	269	269 (0%)	269 (0%)	269 (0%)	269 (0%)
Wet	Oct	13	13 (1%)	13 (1%)	13 (0%)	13 (2%)
Wet	Nov	11	11 (0%)	11 (0%)	11 (0%)	11 (0%)
Wet	Dec	70	70 (0%)	70 (0%)	70 (0%)	70 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	37	37 (0%)	37 (0%)	37 (0%)	37 (0%)
Below Normal	Feb	116	116 (0%)	116 (0%)	116 (0%)	115 (-1%)
Below Normal	Mar	137	137 (0%)	139 (1%)	137 (0%)	136 (-1%)
Below Normal	Apr	93	93 (0%)	93 (0%)	93 (0%)	93 (0%)
Below Normal	May	303	303 (0%)	302 (-1%)	304 (0%)	299 (-1%)
Below Normal	Jun	3,193	3,231 (1%)	3,191 (0%)	3,223 (1%)	3,349 (5%)
Below Normal	Jul	958	961 (0%)	961 (0%)	961 (0%)	961 (0%)
Below Normal	Aug	48	49 (1%)	49 (1%)	49 (1%)	49 (1%)
Below Normal	Sep	13	13 (3%)	13 (3%)	13 (3%)	13 (2%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Oct	207	217 (5%)	216 (4%)	217 (5%)	206 (-1%)
Below Normal	Nov	748	852 (14%)	856 (14%)	851 (14%)	816 (9%)
Below Normal	Dec	83	83 (0%)	83 (0%)	83 (0%)	84 (2%)
Dry	Jan	2	2 (1%)	2 (1%)	2 (0%)	2 (1%)
Dry	Feb	9	9 (1%)	9 (1%)	9 (0%)	9 (-2%)
Dry	Mar	156	156 (0%)	156 (0%)	156 (0%)	155 (-1%)
Dry	Apr	165	166 (0%)	165 (0%)	166 (0%)	166 (1%)
Dry	May	106	106 (0%)	106 (0%)	106 (0%)	106 (0%)
Dry	Jun	91	90 (-1%)	89 (-1%)	90 (-1%)	86 (-5%)
Dry	Jul	44	52 (17%)	52 (18%)	52 (17%)	52 (18%)
Dry	Aug	1	1 (88%)	1 (85%)	1 (87%)	1 (74%)
Dry	Sep	2	2 (26%)	2 (26%)	2 (23%)	2 (23%)
Dry	Oct	1	1 (39%)	1 (42%)	1 (37%)	1 (29%)
Dry	Nov	2	2 (13%)	2 (12%)	2 (11%)	2 (8%)
Dry	Dec	18	17 (-6%)	15 (-18%)	17 (-5%)	15 (-15%)
Critically Dry	Jan	2	2 (0%)	2 (0%)	2 (1%)	2 (0%)
Critically Dry	Feb	9	9 (0%)	9 (0%)	9 (0%)	9 (0%)
Critically Dry	Mar	139	143 (3%)	143 (3%)	144 (3%)	142 (2%)
Critically Dry	Apr	141	141 (0%)	141 (0%)	141 (0%)	141 (0%)
Critically Dry	May	84	83 (0%)	81 (-3%)	83 (0%)	81 (-3%)
Critically Dry	Jun	56	56 (0%)	56 (1%)	56 (0%)	56 (1%)
Critically Dry	Jul	11	19 (74%)	18 (70%)	18 (70%)	18 (70%)
Critically Dry	Aug	0	1 (210%)	1 (204%)	1 (184%)	1 (160%)
Critically Dry	Sep	1	1 (48%)	1 (46%)	1 (39%)	1 (19%)
Critically Dry	Oct	0	1 (33%)	1 (28%)	1 (29%)	1 (26%)
Critically Dry	Nov	1	1 (4%)	1 (5%)	1 (6%)	1 (4%)
Critically Dry	Dec	15	16 (3%)	16 (2%)	15 (2%)	15 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-22. Salvage of Sacramento Splittail at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	31	31 (0%)	31 (0%)	31 (0%)	31 (0%)
Wet	Feb	23	23 (0%)	23 (0%)	23 (0%)	23 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Mar	28	28 (-2%)	28 (-1%)	28 (-2%)	27 (-4%)
Wet	Apr	6,514	6,477 (-1%)	6,448 (-1%)	6,477 (-1%)	6,228 (-4%)
Wet	May	6,266,912	6,279,444 (0%)	6,280,857 (0%)	6,279,364 (0%)	6,265,064 (0%)
Wet	Jun	928,998	928,813 (0%)	930,020 (0%)	928,813 (0%)	930,074 (0%)
Wet	Jul	65,596	65,622 (0%)	65,579 (0%)	65,621 (0%)	65,795 (0%)
Wet	Aug	2,397	2,393 (0%)	2,393 (0%)	2,393 (0%)	2,393 (0%)
Wet	Sep	205	205 (0%)	205 (0%)	205 (0%)	206 (0%)
Wet	Oct	12	13 (3%)	13 (3%)	13 (3%)	13 (3%)
Wet	Nov	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Wet	Dec	23	23 (0%)	23 (0%)	23 (0%)	23 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	47	47 (0%)	47 (0%)	47 (0%)	47 (0%)
Below Normal	Feb	44	44 (-1%)	44 (-1%)	44 (0%)	45 (2%)
Below Normal	Mar	77	77 (0%)	77 (0%)	77 (0%)	77 (0%)
Below Normal	Apr	16	16 (0%)	16 (0%)	16 (0%)	16 (1%)
Below Normal	May	63,518	63,704 (0%)	65,554 (3%)	63,704 (0%)	65,853 (4%)
Below Normal	Jun	9,043	9,066 (0%)	9,156 (1%)	9,067 (0%)	9,405 (4%)
Below Normal	Jul	601	610 (1%)	607 (1%)	610 (1%)	623 (4%)
Below Normal	Aug	15	15 (1%)	15 (-1%)	15 (1%)	15 (1%)
Below Normal	Sep	17	17 (3%)	17 (3%)	17 (3%)	17 (2%)
Below Normal	Oct	25	25 (3%)	26 (4%)	26 (4%)	28 (14%)
Below Normal	Nov	6	6 (2%)	6 (7%)	6 (3%)	7 (19%)
Below Normal	Dec	2	2 (1%)	2 (-6%)	2 (1%)	2 (-6%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	2	2 (-1%)	2 (-1%)	2 (0%)	2 (2%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Mar	24	24 (0%)	24 (0%)	24 (0%)	24 (0%)
Dry	Apr	20	20 (0%)	20 (0%)	20 (0%)	21 (1%)
Dry	May	155	155 (0%)	160 (3%)	155 (0%)	160 (4%)
Dry	Jun	878	880 (0%)	889 (1%)	880 (0%)	913 (4%)
Dry	Jul	298	302 (1%)	300 (1%)	302 (1%)	308 (4%)
Dry	Aug	1	2 (1%)	1 (-1%)	2 (1%)	2 (1%)
Dry	Sep	2	2 (3%)	2 (3%)	2 (3%)	2 (2%)
Dry	Oct	2	2 (3%)	2 (4%)	2 (4%)	2 (14%)
Dry	Nov	4	4 (2%)	5 (7%)	4 (3%)	5 (19%)
Dry	Dec	2	2 (1%)	2 (-6%)	2 (1%)	2 (-6%)
Critically Dry	Jan	7	8 (1%)	8 (2%)	8 (0%)	7 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	1	1 (0%)	1 (11%)	1 (0%)	1 (12%)
Critically Dry	Apr	1	1 (0%)	1 (-1%)	1 (0%)	1 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	3	4 (1%)	3 (-1%)	4 (2%)	3 (-6%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-23. Salvage of Starry Flounder at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Feb	1	1 (0%)	1 (0%)	1 (0%)	1 (0%)
Wet	Mar	9	9 (0%)	9 (0%)	9 (0%)	9 (1%)
Wet	Apr	7	7 (0%)	7 (0%)	7 (0%)	7 (0%)
Wet	May	11	11 (0%)	11 (0%)	11 (0%)	11 (0%)
Wet	Jun	19	19 (0%)	19 (0%)	19 (0%)	19 (0%)
Wet	Jul	13	13 (0%)	13 (1%)	13 (0%)	13 (1%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	4	4 (0%)	4 (0%)	4 (0%)	4 (-1%)
Below Normal	Mar	1	1 (0%)	1 (1%)	1 (0%)	1 (-1%)
Below Normal	Apr	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Below Normal	May	23	23 (0%)	23 (-1%)	23 (0%)	22 (-1%)
Below Normal	Jun	67	68 (1%)	67 (0%)	67 (1%)	70 (5%)
Below Normal	Jul	4	4 (0%)	4 (0%)	4 (0%)	4 (0%)
Below Normal	Aug	20	20 (1%)	20 (1%)	20 (1%)	20 (1%)
Below Normal	Sep	0	0 (3%)	0 (3%)	0 (3%)	0 (2%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	1	1 (0%)	1 (0%)	1 (0%)	1 (-1%)
Dry	Apr	7	7 (0%)	7 (0%)	7 (0%)	7 (1%)
Dry	May	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	4	5 (17%)	5 (18%)	5 (17%)	5 (18%)
Dry	Aug	1	2 (88%)	2 (85%)	2 (87%)	2 (74%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	2	2 (13%)	2 (12%)	2 (11%)	2 (8%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Mar	1	1 (3%)	1 (3%)	1 (3%)	1 (2%)
Critically Dry	Apr	6	6 (0%)	6 (0%)	6 (0%)	6 (0%)
Critically Dry	May	4	4 (0%)	4 (-3%)	4 (0%)	4 (-3%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	1	2 (74%)	2 (70%)	2 (70%)	2 (70%)
Critically Dry	Aug	0	1 (210%)	1 (204%)	1 (184%)	1 (160%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	1	1 (4%)	1 (5%)	1 (6%)	1 (4%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-24. Salvage of Starry Flounder at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Jun	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Wet	Jul	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Wet	Aug	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Wet	Sep	2	2 (0%)	2 (0%)	2 (0%)	2 (0%)
Wet	Oct	1	1 (3%)	1 (3%)	1 (3%)	1 (3%)
Wet	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wet	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Feb	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Mar	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Apr	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(0%)
Below Normal	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Mar	3	3 (0%)	3 (0%)	3 (0%)	3 (0%)
Below Normal	Apr	2	2 (0%)	2 (0%)	2 (0%)	3 (1%)
Below Normal	May	7	7 (0%)	7 (3%)	7 (0%)	7 (4%)
Below Normal	Jun	6	6 (0%)	6 (1%)	6 (0%)	6 (4%)
Below Normal	Jul	3	3 (1%)	3 (1%)	3 (1%)	3 (4%)
Below Normal	Aug	4	4 (1%)	4 (-1%)	4 (1%)	4 (1%)
Below Normal	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Below Normal	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jan	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	May	10	10 (0%)	10 (3%)	10 (0%)	10 (4%)
Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dry	Nov	4	5 (2%)	5 (7%)	5 (3%)	5 (19%)
Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jan	7	8 (1%)	8 (2%)	8 (0%)	7 (0%)
Critically Dry	Feb	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Mar	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Apr	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jul	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Aug	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Sep	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Oct	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Nov	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Dec	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-25. Salvage of Striped Bass at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	14,750	14,761 (0%)	14,755 (0%)	14,756 (0%)	14,753 (0%)
Wet	Feb	13,208	13,189 (0%)	13,213 (0%)	13,189 (0%)	13,176 (0%)
Wet	Mar	13,171	13,210 (0%)	13,110 (0%)	13,202 (0%)	13,304 (1%)
Wet	Apr	1,973	1,973 (0%)	1,972 (0%)	1,973 (0%)	1,974 (0%)
Wet	May	954	958 (0%)	955 (0%)	958 (0%)	953 (0%)
Wet	Jun	28,243	28,250 (0%)	28,209 (0%)	28,250 (0%)	28,208 (0%)
Wet	Jul	161,129	161,610 (0%)	162,297 (1%)	161,610 (0%)	162,007 (1%)
Wet	Aug	24,697	24,707 (0%)	24,830 (1%)	24,708 (0%)	24,797 (0%)
Wet	Sep	4,583	4,587 (0%)	4,587 (0%)	4,588 (0%)	4,587 (0%)
Wet	Oct	1,245	1,253 (1%)	1,257 (1%)	1,249 (0%)	1,268 (2%)
Wet	Nov	25,748	25,748 (0%)	25,748 (0%)	25,748 (0%)	25,748 (0%)
Wet	Dec	22,247	22,223 (0%)	22,186 (0%)	22,223 (0%)	22,254 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	2,363	2,364 (0%)	2,364 (0%)	2,364 (0%)	2,364 (0%)
Below Normal	Feb	4,687	4,700 (0%)	4,696 (0%)	4,680 (0%)	4,640 (-1%)
Below Normal	Mar	3,609	3,613 (0%)	3,644 (1%)	3,613 (0%)	3,588 (-1%)
Below Normal	Apr	297	297 (0%)	297 (0%)	297 (0%)	297 (0%)
Below Normal	May	19,416	19,394 (0%)	19,306 (-1%)	19,466 (0%)	19,132 (-1%)
Below Normal	Jun	97,193	98,349 (1%)	97,146 (0%)	98,124 (1%)	101,950 (5%)
Below Normal	Jul	111,643	112,060 (0%)	112,092 (0%)	112,026 (0%)	112,012 (0%)
Below Normal	Aug	19,047	19,210 (1%)	19,218 (1%)	19,218 (1%)	19,247 (1%)
Below Normal	Sep	1,659	1,706 (3%)	1,714 (3%)	1,704 (3%)	1,699 (2%)
Below Normal	Oct	23,387	24,551 (5%)	24,348 (4%)	24,519 (5%)	23,223 (-1%)
Below Normal	Nov	49,890	56,808 (14%)	57,082 (14%)	56,768 (14%)	54,442 (9%)
Below Normal	Dec	12,177	12,188 (0%)	12,185 (0%)	12,178 (0%)	12,431 (2%)
Dry	Jan	13,422	13,585 (1%)	13,546 (1%)	13,484 (0%)	13,521 (1%)
Dry	Feb	1,441	1,452 (1%)	1,455 (1%)	1,435 (0%)	1,416 (-2%)
Dry	Mar	930	929 (0%)	929 (0%)	929 (0%)	925 (-1%)
Dry	Apr	471	471 (0%)	469 (0%)	471 (0%)	474 (1%)
Dry	May	5,811	5,814 (0%)	5,817 (0%)	5,814 (0%)	5,816 (0%)
Dry	Jun	33,963	33,584 (-1%)	33,497 (-1%)	33,592 (-1%)	32,281 (-5%)
Dry	Jul	23,068	27,065 (17%)	27,152 (18%)	27,060 (17%)	27,163 (18%)
Dry	Aug	443	833 (88%)	822 (85%)	831 (87%)	770 (74%)
Dry	Sep	380	478 (26%)	480 (26%)	469 (23%)	466 (23%)
Dry	Oct	1,322	1,842 (39%)	1,872 (42%)	1,814 (37%)	1,710 (29%)
Dry	Nov	7,790	8,788 (13%)	8,705 (12%)	8,657 (11%)	8,420 (8%)
Dry	Dec	35,934	33,943 (-6%)	29,432 (-18%)	34,135 (-5%)	30,425 (-15%)
Critically Dry	Jan	12,939	12,906 (0%)	12,912 (0%)	13,064 (1%)	12,900 (0%)
Critically Dry	Feb	1,386	1,385 (0%)	1,386 (0%)	1,386 (0%)	1,390 (0%)
Critically Dry	Mar	828	851 (3%)	851 (3%)	857 (3%)	845 (2%)
Critically Dry	Apr	401	401 (0%)	401 (0%)	401 (0%)	401 (0%)
Critically Dry	May	4,590	4,587 (0%)	4,438 (-3%)	4,587 (0%)	4,431 (-3%)
Critically Dry	Jun	21,023	21,004 (0%)	21,145 (1%)	21,016 (0%)	21,131 (1%)
Critically Dry	Jul	5,671	9,857 (74%)	9,641 (70%)	9,656 (70%)	9,624 (70%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Aug	189	585 (210%)	573 (204%)	535 (184%)	491 (160%)
Critically Dry	Sep	193	286 (48%)	281 (46%)	269 (39%)	230 (19%)
Critically Dry	Oct	605	803 (33%)	777 (28%)	783 (29%)	760 (26%)
Critically Dry	Nov	4,421	4,610 (4%)	4,632 (5%)	4,666 (6%)	4,595 (4%)
Critically Dry	Dec	30,303	31,073 (3%)	30,939 (2%)	30,766 (2%)	30,529 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-26. Salvage of Striped Bass at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	6,441	6,441 (0%)	6,441 (0%)	6,441 (0%)	6,441 (0%)
Wet	Feb	2,172	2,172 (0%)	2,172 (0%)	2,169 (0%)	2,171 (0%)
Wet	Mar	1,150	1,126 (-2%)	1,134 (-1%)	1,126 (-2%)	1,102 (-4%)
Wet	Apr	1,419	1,411 (-1%)	1,404 (-1%)	1,410 (-1%)	1,356 (-4%)
Wet	May	80	80 (0%)	80 (0%)	80 (0%)	80 (0%)
Wet	Jun	6,782	6,781 (0%)	6,790 (0%)	6,781 (0%)	6,790 (0%)
Wet	Jul	22,920	22,929 (0%)	22,914 (0%)	22,929 (0%)	22,989 (0%)
Wet	Aug	16,842	16,812 (0%)	16,812 (0%)	16,812 (0%)	16,812 (0%)
Wet	Sep	2,129	2,130 (0%)	2,129 (0%)	2,130 (0%)	2,132 (0%)
Wet	Oct	429	442 (3%)	442 (3%)	442 (3%)	443 (3%)
Wet	Nov	715	715 (0%)	715 (0%)	715 (0%)	715 (0%)
Wet	Dec	1,899	1,900 (0%)	1,900 (0%)	1,900 (0%)	1,900 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Jan	5,047	5,032 (0%)	5,042 (0%)	5,059 (0%)	5,063 (0%)
Below Normal	Feb	4,668	4,642 (-1%)	4,638 (-1%)	4,683 (0%)	4,780 (2%)
Below Normal	Mar	5,822	5,826 (0%)	5,826 (0%)	5,826 (0%)	5,845 (0%)
Below Normal	Apr	708	709 (0%)	709 (0%)	709 (0%)	715 (1%)
Below Normal	May	8,924	8,950 (0%)	9,210 (3%)	8,950 (0%)	9,252 (4%)
Below Normal	Jun	47,720	47,839 (0%)	48,317 (1%)	47,846 (0%)	49,632 (4%)
Below Normal	Jul	19,524	19,800 (1%)	19,697 (1%)	19,804 (1%)	20,228 (4%)
Below Normal	Aug	3,090	3,131 (1%)	3,054 (-1%)	3,130 (1%)	3,119 (1%)
Below Normal	Sep	450	463 (3%)	463 (3%)	463 (3%)	460 (2%)
Below Normal	Oct	561	579 (3%)	582 (4%)	583 (4%)	637 (14%)
Below Normal	Nov	1,549	1,586 (2%)	1,664 (7%)	1,595 (3%)	1,840 (19%)
Below Normal	Dec	765	774 (1%)	720 (-6%)	770 (1%)	721 (-6%)
Dry	Jan	744	742 (0%)	743 (0%)	746 (0%)	747 (0%)
Dry	Feb	1,204	1,197 (-1%)	1,196 (-1%)	1,208 (0%)	1,233 (2%)
Dry	Mar	2,824	2,826 (0%)	2,826 (0%)	2,826 (0%)	2,835 (0%)
Dry	Apr	670	671 (0%)	671 (0%)	671 (0%)	676 (1%)
Dry	May	25,287	25,361 (0%)	26,097 (3%)	25,361 (0%)	26,217 (4%)
Dry	Jun	102,732	102,988 (0%)	104,016 (1%)	103,002 (0%)	106,847 (4%)
Dry	Jul	32,286	32,742 (1%)	32,570 (1%)	32,747 (1%)	33,450 (4%)
Dry	Aug	1,169	1,184 (1%)	1,155 (-1%)	1,184 (1%)	1,180 (1%)
Dry	Sep	496	510 (3%)	511 (3%)	511 (3%)	508 (2%)
Dry	Oct	339	350 (3%)	352 (4%)	353 (4%)	385 (14%)
Dry	Nov	1,573	1,611 (2%)	1,690 (7%)	1,619 (3%)	1,869 (19%)
Dry	Dec	3,460	3,497 (1%)	3,256 (-6%)	3,479 (1%)	3,261 (-6%)
Critically Dry	Jan	843	855 (1%)	857 (2%)	847 (0%)	844 (0%)
Critically Dry	Feb	698	699 (0%)	702 (0%)	699 (0%)	699 (0%)
Critically Dry	Mar	469	469 (0%)	520 (11%)	469 (0%)	527 (12%)
Critically Dry	Apr	309	308 (0%)	307 (-1%)	308 (0%)	309 (0%)
Critically Dry	May	32,586	32,603 (0%)	32,849 (1%)	32,631 (0%)	32,971 (1%)
Critically Dry	Jun	20,443	20,412 (0%)	19,963 (-2%)	20,446 (0%)	19,329 (-5%)
Critically Dry	Jul	2,259	2,290 (1%)	2,232 (-1%)	2,296 (2%)	2,112 (-6%)
Critically Dry	Aug	375	377 (1%)	375 (0%)	377 (1%)	375 (0%)
Critically Dry	Sep	250	255 (2%)	256 (2%)	256 (3%)	258 (3%)
Critically Dry	Oct	49	55 (12%)	55 (11%)	55 (11%)	54 (10%)
Critically Dry	Nov	266	270 (2%)	269 (1%)	271 (2%)	269 (1%)
Critically Dry	Dec	1,485	1,501 (1%)	1,504 (1%)	1,488 (0%)	1,572 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-27. Salvage of American Shad at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	22,018	22,034 (0%)	22,025 (0%)	22,027 (0%)	22,022 (0%)
Wet	Feb	11,135	11,120 (0%)	11,139 (0%)	11,119 (0%)	11,109 (0%)
Wet	Mar	1,259	1,262 (0%)	1,253 (0%)	1,262 (0%)	1,271 (1%)
Wet	Apr	283	283 (0%)	283 (0%)	283 (0%)	283 (0%)
Wet	May	2,077	2,086 (0%)	2,081 (0%)	2,086 (0%)	2,076 (0%)
Wet	Jun	17,315	17,319 (0%)	17,294 (0%)	17,319 (0%)	17,294 (0%)
Wet	Jul	118,936	119,291 (0%)	119,798 (1%)	119,292 (0%)	119,584 (1%)
Wet	Aug	86,705	86,741 (0%)	87,173 (1%)	86,744 (0%)	87,058 (0%)
Wet	Sep	18,290	18,306 (0%)	18,307 (0%)	18,307 (0%)	18,306 (0%)
Wet	Oct	1,249	1,257 (1%)	1,261 (1%)	1,253 (0%)	1,271 (2%)
Wet	Nov	11,888	11,888 (0%)	11,888 (0%)	11,888 (0%)	11,887 (0%)
Wet	Dec	27,616	27,588 (0%)	27,541 (0%)	27,588 (0%)	27,626 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	6,851	6,852 (0%)	6,852 (0%)	6,852 (0%)	6,853 (0%)
Below Normal	Feb	4,088	4,100 (0%)	4,096 (0%)	4,082 (0%)	4,048 (-1%)
Below Normal	Mar	443	443 (0%)	447 (1%)	443 (0%)	440 (-1%)
Below Normal	Apr	48	48 (0%)	48 (0%)	48 (0%)	48 (0%)
Below Normal	May	1,948	1,946 (0%)	1,937 (-1%)	1,953 (0%)	1,920 (-1%)
Below Normal	Jun	4,225	4,275 (1%)	4,223 (0%)	4,265 (1%)	4,432 (5%)
Below Normal	Jul	73,122	73,395 (0%)	73,416 (0%)	73,373 (0%)	73,364 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Aug	66,441	67,009 (1%)	67,036 (1%)	67,036 (1%)	67,136 (1%)
Below Normal	Sep	9,573	9,845 (3%)	9,888 (3%)	9,831 (3%)	9,801 (2%)
Below Normal	Oct	40,687	42,713 (5%)	42,359 (4%)	42,656 (5%)	40,401 (-1%)
Below Normal	Nov	37,047	42,184 (14%)	42,387 (14%)	42,154 (14%)	40,427 (9%)
Below Normal	Dec	26,372	26,397 (0%)	26,390 (0%)	26,375 (0%)	26,924 (2%)
Dry	Jan	11,668	11,810 (1%)	11,776 (1%)	11,722 (0%)	11,754 (1%)
Dry	Feb	2,370	2,389 (1%)	2,393 (1%)	2,361 (0%)	2,329 (-2%)
Dry	Mar	456	456 (0%)	456 (0%)	456 (0%)	454 (-1%)
Dry	Apr	297	298 (0%)	296 (0%)	298 (0%)	299 (1%)
Dry	May	130	130 (0%)	130 (0%)	130 (0%)	130 (0%)
Dry	Jun	347	343 (-1%)	342 (-1%)	343 (-1%)	330 (-5%)
Dry	Jul	24,769	29,062 (17%)	29,155 (18%)	29,056 (17%)	29,167 (18%)
Dry	Aug	8,846	16,617 (88%)	16,402 (85%)	16,572 (87%)	15,365 (74%)
Dry	Sep	5,849	7,359 (26%)	7,384 (26%)	7,214 (23%)	7,167 (23%)
Dry	Oct	5,048	7,032 (39%)	7,147 (42%)	6,923 (37%)	6,525 (29%)
Dry	Nov	20,646	23,293 (13%)	23,071 (12%)	22,944 (11%)	22,316 (8%)
Dry	Dec	48,910	46,201 (-6%)	40,061 (-18%)	46,463 (-5%)	41,412 (-15%)
Critically Dry	Jan	11,248	11,220 (0%)	11,225 (0%)	11,357 (1%)	11,215 (0%)
Critically Dry	Feb	2,280	2,279 (0%)	2,280 (0%)	2,281 (0%)	2,287 (0%)
Critically Dry	Mar	406	417 (3%)	417 (3%)	420 (3%)	415 (2%)
Critically Dry	Apr	253	253 (0%)	253 (0%)	253 (0%)	253 (0%)
Critically Dry	May	103	103 (0%)	99 (-3%)	103 (0%)	99 (-3%)
Critically Dry	Jun	215	215 (0%)	216 (1%)	215 (0%)	216 (1%)
Critically Dry	Jul	6,090	10,584 (74%)	10,352 (70%)	10,368 (70%)	10,334 (70%)
Critically Dry	Aug	3,761	11,673 (210%)	11,439 (204%)	10,674 (184%)	9,787 (160%)
Critically Dry	Sep	2,972	4,398 (48%)	4,324 (46%)	4,136 (39%)	3,537 (19%)
Critically Dry	Oct	2,308	3,065 (33%)	2,966 (28%)	2,987 (29%)	2,901 (26%)
Critically Dry	Nov	11,717	12,217 (4%)	12,276 (5%)	12,368 (6%)	12,177 (4%)
Critically Dry	Dec	41,246	42,294 (3%)	42,112 (2%)	41,877 (2%)	41,553 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-28. Salvage of American Shad at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	14,739	14,739 (0%)	14,739 (0%)	14,739 (0%)	14,739 (0%)
Wet	Feb	2,802	2,802 (0%)	2,802 (0%)	2,798 (0%)	2,800 (0%)
Wet	Mar	247	242 (-2%)	243 (-1%)	242 (-2%)	236 (-4%)
Wet	Apr	24	23 (-1%)	23 (-1%)	23 (-1%)	22 (-4%)
Wet	May	19	19 (0%)	19 (0%)	19 (0%)	19 (0%)
Wet	Jun	1,586	1,585 (0%)	1,587 (0%)	1,585 (0%)	1,587 (0%)
Wet	Jul	67,521	67,548 (0%)	67,503 (0%)	67,547 (0%)	67,726 (0%)
Wet	Aug	109,668	109,468 (0%)	109,468 (0%)	109,468 (0%)	109,468 (0%)
Wet	Sep	8,505	8,508 (0%)	8,504 (0%)	8,509 (0%)	8,517 (0%)
Wet	Oct	1,949	2,009 (3%)	2,008 (3%)	2,009 (3%)	2,011 (3%)
Wet	Nov	12,273	12,273 (0%)	12,274 (0%)	12,273 (0%)	12,275 (0%)
Wet	Dec	23,988	23,990 (0%)	23,991 (0%)	23,990 (0%)	23,996 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	3,713	3,701 (0%)	3,709 (0%)	3,721 (0%)	3,725 (0%)
Below Normal	Feb	3,563	3,543 (-1%)	3,540 (-1%)	3,574 (0%)	3,649 (2%)
Below Normal	Mar	225	225 (0%)	225 (0%)	225 (0%)	226 (0%)
Below Normal	Apr	133	133 (0%)	134 (0%)	133 (0%)	135 (1%)
Below Normal	May	53	54 (0%)	55 (3%)	54 (0%)	55 (4%)
Below Normal	Jun	1,378	1,381 (0%)	1,395 (1%)	1,381 (0%)	1,433 (4%)
Below Normal	Jul	15,045	15,258 (1%)	15,178 (1%)	15,261 (1%)	15,588 (4%)
Below Normal	Aug	11,084	11,230 (1%)	10,955 (-1%)	11,227 (1%)	11,187 (1%)
Below Normal	Sep	1,983	2,039 (3%)	2,042 (3%)	2,040 (3%)	2,030 (2%)
Below Normal	Oct	3,575	3,694 (3%)	3,713 (4%)	3,720 (4%)	4,059 (14%)
Below Normal	Nov	10,792	11,057 (2%)	11,594 (7%)	11,113 (3%)	12,826 (19%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Below Normal	Dec	8,594	8,686 (1%)	8,088 (-6%)	8,642 (1%)	8,100 (-6%)
Dry	Jan	12,130	12,093 (0%)	12,117 (0%)	12,158 (0%)	12,170 (0%)
Dry	Feb	2,063	2,052 (-1%)	2,050 (-1%)	2,070 (0%)	2,113 (2%)
Dry	Mar	347	347 (0%)	347 (0%)	347 (0%)	348 (0%)
Dry	Apr	91	91 (0%)	91 (0%)	91 (0%)	92 (1%)
Dry	May	15	15 (0%)	16 (3%)	15 (0%)	16 (4%)
Dry	Jun	1,014	1,017 (0%)	1,027 (1%)	1,017 (0%)	1,055 (4%)
Dry	Jul	19,356	19,630 (1%)	19,527 (1%)	19,633 (1%)	20,054 (4%)
Dry	Aug	8,511	8,623 (1%)	8,412 (-1%)	8,621 (1%)	8,590 (1%)
Dry	Sep	1,125	1,157 (3%)	1,159 (3%)	1,158 (3%)	1,152 (2%)
Dry	Oct	718	742 (3%)	746 (4%)	747 (4%)	815 (14%)
Dry	Nov	7,576	7,761 (2%)	8,138 (7%)	7,801 (3%)	9,003 (19%)
Dry	Dec	19,880	20,093 (1%)	18,710 (-6%)	19,991 (1%)	18,738 (-6%)
Critically Dry	Jan	1,259	1,277 (1%)	1,279 (2%)	1,265 (0%)	1,260 (0%)
Critically Dry	Feb	5	5 (0%)	5 (0%)	5 (0%)	5 (0%)
Critically Dry	Mar	8	8 (0%)	8 (11%)	8 (0%)	9 (12%)
Critically Dry	Apr	4	4 (0%)	4 (-1%)	4 (0%)	4 (0%)
Critically Dry	May	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Critically Dry	Jun	203	203 (0%)	198 (-2%)	203 (0%)	192 (-5%)
Critically Dry	Jul	17	17 (1%)	17 (-1%)	17 (2%)	16 (-6%)
Critically Dry	Aug	654	658 (1%)	656 (0%)	658 (1%)	655 (0%)
Critically Dry	Sep	61	62 (2%)	63 (2%)	63 (3%)	63 (3%)
Critically Dry	Oct	257	289 (12%)	286 (11%)	286 (11%)	284 (10%)
Critically Dry	Nov	206	209 (2%)	208 (1%)	210 (2%)	208 (1%)
Critically Dry	Dec	758	766 (1%)	767 (1%)	759 (0%)	802 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-29. Salvage of Threadfin Shad at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	3,164	3,167 (0%)	3,165 (0%)	3,166 (0%)	3,165 (0%)
Wet	Feb	1,397	1,395 (0%)	1,397 (0%)	1,395 (0%)	1,393 (0%)
Wet	Mar	211	211 (0%)	210 (0%)	211 (0%)	213 (1%)
Wet	Apr	205	205 (0%)	205 (0%)	205 (0%)	205 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	May	991	996 (0%)	993 (0%)	996 (0%)	991 (0%)
Wet	Jun	20,991	20,996 (0%)	20,965 (0%)	20,996 (0%)	20,965 (0%)
Wet	Jul	195,099	195,682 (0%)	196,513 (1%)	195,682 (0%)	196,162 (1%)
Wet	Aug	179,427	179,502 (0%)	180,397 (1%)	179,509 (0%)	180,158 (0%)
Wet	Sep	34,096	34,125 (0%)	34,127 (0%)	34,128 (0%)	34,126 (0%)
Wet	Oct	9,956	10,020 (1%)	10,052 (1%)	9,987 (0%)	10,134 (2%)
Wet	Nov	5,101	5,101 (0%)	5,101 (0%)	5,101 (0%)	5,101 (0%)
Wet	Dec	5,257	5,252 (0%)	5,243 (0%)	5,252 (0%)	5,259 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	380	380 (0%)	380 (0%)	380 (0%)	380 (0%)
Below Normal	Feb	832	835 (0%)	834 (0%)	831 (0%)	824 (-1%)
Below Normal	Mar	194	195 (0%)	196 (1%)	195 (0%)	193 (-1%)
Below Normal	Apr	56	56 (0%)	56 (0%)	56 (0%)	56 (0%)
Below Normal	May	3,702	3,698 (0%)	3,681 (-1%)	3,711 (0%)	3,648 (-1%)
Below Normal	Jun	64,703	65,473 (1%)	64,672 (0%)	65,323 (1%)	67,870 (5%)
Below Normal	Jul	805,203	808,211 (0%)	808,440 (0%)	807,968 (0%)	807,865 (0%)
Below Normal	Aug	319,050	321,775 (1%)	321,907 (1%)	321,907 (1%)	322,388 (1%)
Below Normal	Sep	53,787	55,314 (3%)	55,556 (3%)	55,236 (3%)	55,067 (2%)
Below Normal	Oct	229,565	240,996 (5%)	239,001 (4%)	240,672 (5%)	227,954 (-1%)
Below Normal	Nov	12,489	14,221 (14%)	14,289 (14%)	14,211 (14%)	13,629 (9%)
Below Normal	Dec	3,535	3,539 (0%)	3,538 (0%)	3,536 (0%)	3,609 (2%)
Dry	Jan	4,256	4,307 (1%)	4,295 (1%)	4,275 (0%)	4,287 (1%)
Dry	Feb	39	39 (1%)	39 (1%)	39 (0%)	38 (-2%)
Dry	Mar	32	32 (0%)	32 (0%)	32 (0%)	32 (-1%)
Dry	Apr	82	82 (0%)	82 (0%)	82 (0%)	83 (1%)
Dry	May	36	36 (0%)	36 (0%)	36 (0%)	36 (0%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Jun	52,821	52,231 (-1%)	52,096 (-1%)	52,245 (-1%)	50,206 (-5%)
Dry	Jul	898,231	1,053,906 (17%)	1,057,280 (18%)	1,053,678 (17%)	1,057,701 (18%)
Dry	Aug	63,969	120,161 (88%)	118,602 (85%)	119,837 (87%)	111,104 (74%)
Dry	Sep	72,699	91,458 (26%)	91,773 (26%)	89,662 (23%)	89,072 (23%)
Dry	Oct	6,428	8,955 (39%)	9,101 (42%)	8,816 (37%)	8,309 (29%)
Dry	Nov	11,134	12,561 (13%)	12,442 (12%)	12,373 (11%)	12,034 (8%)
Dry	Dec	6,924	6,540 (-6%)	5,671 (-18%)	6,577 (-5%)	5,862 (-15%)
Critically Dry	Jan	4,103	4,092 (0%)	4,094 (0%)	4,142 (1%)	4,090 (0%)
Critically Dry	Feb	37	37 (0%)	37 (0%)	37 (0%)	37 (0%)
Critically Dry	Mar	29	30 (3%)	30 (3%)	30 (3%)	29 (2%)
Critically Dry	Apr	70	70 (0%)	70 (0%)	70 (0%)	70 (0%)
Critically Dry	May	28	28 (0%)	27 (-3%)	28 (0%)	27 (-3%)
Critically Dry	Jun	32,697	32,666 (0%)	32,886 (1%)	32,685 (0%)	32,864 (1%)
Critically Dry	Jul	220,841	383,804 (74%)	375,405 (70%)	375,980 (70%)	374,752 (70%)
Critically Dry	Aug	27,197	84,411 (210%)	82,717 (204%)	77,184 (184%)	70,769 (160%)
Critically Dry	Sep	36,935	54,658 (48%)	53,745 (46%)	51,409 (39%)	43,959 (19%)
Critically Dry	Oct	2,939	3,903 (33%)	3,776 (28%)	3,804 (29%)	3,694 (26%)
Critically Dry	Nov	6,319	6,588 (4%)	6,620 (5%)	6,670 (6%)	6,567 (4%)
Critically Dry	Dec	5,839	5,987 (3%)	5,961 (2%)	5,928 (2%)	5,882 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-30. Salvage of Threadfin Shad at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	19,734	19,734 (0%)	19,734 (0%)	19,734 (0%)	19,734 (0%)
Wet	Feb	4,328	4,327 (0%)	4,328 (0%)	4,321 (0%)	4,325 (0%)
Wet	Mar	803	786 (-2%)	792 (-1%)	787 (-2%)	770 (-4%)
Wet	Apr	986	980 (-1%)	976 (-1%)	980 (-1%)	943 (-4%)
Wet	May	626	627 (0%)	627 (0%)	627 (0%)	625 (0%)
Wet	Jun	24,173	24,168 (0%)	24,199 (0%)	24,168 (0%)	24,201 (0%)
Wet	Jul	190,078	190,152 (0%)	190,027 (0%)	190,150 (0%)	190,654 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Aug	265,543	265,059 (0%)	265,059 (0%)	265,059 (0%)	265,059 (0%)
Wet	Sep	83,151	83,185 (0%)	83,148 (0%)	83,191 (0%)	83,268 (0%)
Wet	Oct	32,231	33,224 (3%)	33,209 (3%)	33,226 (3%)	33,259 (3%)
Wet	Nov	90,875	90,874 (0%)	90,880 (0%)	90,874 (0%)	90,889 (0%)
Wet	Dec	27,863	27,866 (0%)	27,867 (0%)	27,866 (0%)	27,873 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	7,997	7,973 (0%)	7,988 (0%)	8,015 (0%)	8,023 (0%)
Below Normal	Feb	4,873	4,847 (-1%)	4,842 (-1%)	4,889 (0%)	4,991 (2%)
Below Normal	Mar	1,922	1,923 (0%)	1,923 (0%)	1,923 (0%)	1,930 (0%)
Below Normal	Apr	258	258 (0%)	258 (0%)	258 (0%)	260 (1%)
Below Normal	May	311	312 (0%)	321 (3%)	312 (0%)	322 (4%)
Below Normal	Jun	38,188	38,283 (0%)	38,665 (1%)	38,288 (0%)	39,717 (4%)
Below Normal	Jul	259,244	262,909 (1%)	261,531 (1%)	262,951 (1%)	268,593 (4%)
Below Normal	Aug	373,392	378,296 (1%)	369,036 (-1%)	378,203 (1%)	376,856 (1%)
Below Normal	Sep	123,939	127,408 (3%)	127,624 (3%)	127,496 (3%)	126,827 (2%)
Below Normal	Oct	13,655	14,108 (3%)	14,179 (4%)	14,205 (4%)	15,502 (14%)
Below Normal	Nov	57,595	59,005 (2%)	61,874 (7%)	59,307 (3%)	68,446 (19%)
Below Normal	Dec	11,324	11,445 (1%)	10,657 (-6%)	11,387 (1%)	10,673 (-6%)
Dry	Jan	12,595	12,557 (0%)	12,581 (0%)	12,624 (0%)	12,636 (0%)
Dry	Feb	2,442	2,429 (-1%)	2,427 (-1%)	2,450 (0%)	2,501 (2%)
Dry	Mar	417	418 (0%)	418 (0%)	418 (0%)	419 (0%)
Dry	Apr	886	887 (0%)	887 (0%)	887 (0%)	894 (1%)
Dry	May	206	206 (0%)	212 (3%)	206 (0%)	213 (4%)
Dry	Jun	12,021	12,051 (0%)	12,171 (1%)	12,052 (0%)	12,502 (4%)
Dry	Jul	1,049,611	1,064,448 (1%)	1,058,869 (1%)	1,064,619 (1%)	1,087,461 (4%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Dry	Aug	74,899	75,883 (1%)	74,026 (-1%)	75,865 (1%)	75,594 (1%)
Dry	Sep	33,816	34,762 (3%)	34,821 (3%)	34,786 (3%)	34,603 (2%)
Dry	Oct	1,131,783	1,169,322 (3%)	1,175,207 (4%)	1,177,383 (4%)	1,284,862 (14%)
Dry	Nov	133,539	136,810 (2%)	143,461 (7%)	137,511 (3%)	158,700 (19%)
Dry	Dec	23,562	23,815 (1%)	22,175 (-6%)	23,694 (1%)	22,209 (-6%)
Critically Dry	Jan	1,003	1,016 (1%)	1,019 (2%)	1,007 (0%)	1,003 (0%)
Critically Dry	Feb	39	39 (0%)	39 (0%)	39 (0%)	39 (0%)
Critically Dry	Mar	88	88 (0%)	97 (11%)	88 (0%)	99 (12%)
Critically Dry	Apr	69	68 (0%)	68 (-1%)	68 (0%)	68 (0%)
Critically Dry	May	38	38 (0%)	38 (1%)	38 (0%)	38 (1%)
Critically Dry	Jun	2,085	2,081 (0%)	2,035 (-2%)	2,085 (0%)	1,971 (-5%)
Critically Dry	Jul	32,909	33,364 (1%)	32,518 (-1%)	33,448 (2%)	30,772 (-6%)
Critically Dry	Aug	111,689	112,388 (1%)	111,926 (0%)	112,392 (1%)	111,794 (0%)
Critically Dry	Sep	52,896	54,041 (2%)	54,169 (2%)	54,253 (3%)	54,620 (3%)
Critically Dry	Oct	5,493	6,168 (12%)	6,115 (11%)	6,116 (11%)	6,064 (10%)
Critically Dry	Nov	5,092	5,169 (2%)	5,140 (1%)	5,177 (2%)	5,138 (1%)
Critically Dry	Dec	7,738	7,820 (1%)	7,833 (1%)	7,750 (0%)	8,189 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-31. Salvage of Largemouth Bass at SWP Banks Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	65	65 (0%)	65 (0%)	65 (0%)	65 (0%)
Wet	Feb	35	35 (0%)	35 (0%)	35 (0%)	35 (0%)
Wet	Mar	21	21 (0%)	21 (0%)	21 (0%)	21 (1%)
Wet	Apr	48	48 (0%)	48 (0%)	48 (0%)	48 (0%)
Wet	May	89	89 (0%)	89 (0%)	89 (0%)	88 (0%)
Wet	Jun	5,743	5,745 (0%)	5,736 (0%)	5,745 (0%)	5,736 (0%)
Wet	Jul	10,994	11,027 (0%)	11,074 (1%)	11,027 (0%)	11,054 (1%)
Wet	Aug	1,589	1,589 (0%)	1,597 (1%)	1,589 (0%)	1,595 (0%)
Wet	Sep	163	163 (0%)	163 (0%)	163 (0%)	163 (0%)
Wet	Oct	73	73 (1%)	74 (1%)	73 (0%)	74 (2%)
Wet	Nov	75	75 (0%)	75 (0%)	75 (0%)	75 (0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Dec	60	59 (0%)	59 (0%)	59 (0%)	60 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(1%)	(0%)	(0%)	(-1%)
Above Normal	Mar	N/A	(2%)	(2%)	(2%)	(0%)
Above Normal	Apr	N/A	(12%)	(12%)	(13%)	(-6%)
Above Normal	May	N/A	(-18%)	(-18%)	(-18%)	(-1%)
Above Normal	Jun	N/A	(0%)	(-1%)	(0%)	(-2%)
Above Normal	Jul	N/A	(0%)	(0%)	(0%)	(-4%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Oct	N/A	(2%)	(3%)	(2%)	(6%)
Above Normal	Nov	N/A	(0%)	(0%)	(0%)	(3%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(-1%)
Below Normal	Jan	42	42 (0%)	42 (0%)	42 (0%)	42 (0%)
Below Normal	Feb	11	11 (0%)	11 (0%)	11 (0%)	11 (-1%)
Below Normal	Mar	10	10 (0%)	11 (1%)	10 (0%)	10 (-1%)
Below Normal	Apr	10	10 (0%)	10 (0%)	10 (0%)	10 (0%)
Below Normal	May	2,962	2,959 (0%)	2,945 (-1%)	2,969 (0%)	2,919 (-1%)
Below Normal	Jun	1,980	2,004 (1%)	1,979 (0%)	1,999 (1%)	2,077 (5%)
Below Normal	Jul	9,042	9,076 (0%)	9,078 (0%)	9,073 (0%)	9,072 (0%)
Below Normal	Aug	1,058	1,067 (1%)	1,067 (1%)	1,067 (1%)	1,069 (1%)
Below Normal	Sep	252	259 (3%)	260 (3%)	259 (3%)	258 (2%)
Below Normal	Oct	524	550 (5%)	546 (4%)	549 (5%)	520 (-1%)
Below Normal	Nov	175	200 (14%)	201 (14%)	199 (14%)	191 (9%)
Below Normal	Dec	92	92 (0%)	92 (0%)	92 (0%)	94 (2%)
Dry	Jan	52	53 (1%)	53 (1%)	53 (0%)	53 (1%)
Dry	Feb	9	9 (1%)	9 (1%)	9 (0%)	9 (-2%)
Dry	Mar	5	5 (0%)	5 (0%)	5 (0%)	5 (-1%)
Dry	Apr	15	15 (0%)	15 (0%)	15 (0%)	15 (1%)
Dry	May	611	612 (0%)	612 (0%)	612 (0%)	612 (0%)
Dry	Jun	1,273	1,259 (-1%)	1,256 (-1%)	1,259 (-1%)	1,210 (-5%)
Dry	Jul	4,565	5,356 (17%)	5,373 (18%)	5,355 (17%)	5,375 (18%)
Dry	Aug	135	253 (88%)	250 (85%)	252 (87%)	234 (74%)
Dry	Sep	148	187 (26%)	187 (26%)	183 (23%)	182 (23%)
Dry	Oct	514	716 (39%)	727 (42%)	704 (37%)	664 (29%)
Dry	Nov	196	221 (13%)	219 (12%)	218 (11%)	212 (8%)
Dry	Dec	89	84 (-6%)	73 (-18%)	84 (-5%)	75 (-15%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Jan	51	50 (0%)	50 (0%)	51 (1%)	50 (0%)
Critically Dry	Feb	9	9 (0%)	9 (0%)	9 (0%)	9 (0%)
Critically Dry	Mar	5	5 (3%)	5 (3%)	5 (3%)	5 (2%)
Critically Dry	Apr	12	12 (0%)	12 (0%)	12 (0%)	12 (0%)
Critically Dry	May	483	483 (0%)	467 (-3%)	483 (0%)	466 (-3%)
Critically Dry	Jun	788	787 (0%)	793 (1%)	788 (0%)	792 (1%)
Critically Dry	Jul	1,122	1,950 (74%)	1,908 (70%)	1,911 (70%)	1,904 (70%)
Critically Dry	Aug	57	178 (210%)	174 (204%)	163 (184%)	149 (160%)
Critically Dry	Sep	75	112 (48%)	110 (46%)	105 (39%)	90 (19%)
Critically Dry	Oct	235	312 (33%)	302 (28%)	304 (29%)	295 (26%)
Critically Dry	Nov	111	116 (4%)	117 (5%)	117 (6%)	116 (4%)
Critically Dry	Dec	75	77 (3%)	76 (2%)	76 (2%)	75 (1%)

Alt = alternative; N/A = not applicable; NAA = No Action Alternative; SWP = State Water Project.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

Table 11Q-32. Salvage of Largemouth Bass at CVP Jones Pumping Plant, Averaged by Water Year Type and Month, Based on the Salvage-Density Method

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Wet	Jan	2,261	2,261 (0%)	2,261 (0%)	2,261 (0%)	2,261 (0%)
Wet	Feb	993	993 (0%)	993 (0%)	992 (0%)	993 (0%)
Wet	Mar	453	443 (-2%)	446 (-1%)	443 (-2%)	434 (-4%)
Wet	Apr	252	251 (-1%)	249 (-1%)	251 (-1%)	241 (-4%)
Wet	May	2,304	2,308 (0%)	2,309 (0%)	2,308 (0%)	2,303 (0%)
Wet	Jun	18,051	18,047 (0%)	18,071 (0%)	18,047 (0%)	18,072 (0%)
Wet	Jul	16,605	16,612 (0%)	16,601 (0%)	16,611 (0%)	16,655 (0%)
Wet	Aug	4,922	4,913 (0%)	4,913 (0%)	4,913 (0%)	4,913 (0%)
Wet	Sep	777	777 (0%)	777 (0%)	777 (0%)	778 (0%)
Wet	Oct	334	345 (3%)	344 (3%)	345 (3%)	345 (3%)
Wet	Nov	1,095	1,095 (0%)	1,095 (0%)	1,095 (0%)	1,095 (0%)
Wet	Dec	2,283	2,284 (0%)	2,284 (0%)	2,284 (0%)	2,284 (0%)
Above Normal	Jan	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Feb	N/A	(-1%)	(-2%)	(-1%)	(-1%)
Above Normal	Mar	N/A	(-2%)	(-3%)	(-2%)	(0%)
Above Normal	Apr	N/A	(-1%)	(-1%)	(-1%)	(0%)
Above Normal	May	N/A	(0%)	(0%)	(0%)	(0%)

Other Delta Species Analyses

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Above Normal	Jun	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Jul	N/A	(0%)	(1%)	(0%)	(8%)
Above Normal	Aug	N/A	(0%)	(0%)	(0%)	(0%)
Above Normal	Sep	N/A	(0%)	(0%)	(0%)	(1%)
Above Normal	Oct	N/A	(0%)	(0%)	(0%)	(7%)
Above Normal	Nov	N/A	(1%)	(1%)	(1%)	(1%)
Above Normal	Dec	N/A	(0%)	(0%)	(0%)	(1%)
Below Normal	Jan	1,726	1,721 (0%)	1,725 (0%)	1,730 (0%)	1,732 (0%)
Below Normal	Feb	458	455 (-1%)	455 (-1%)	459 (0%)	469 (2%)
Below Normal	Mar	194	194 (0%)	194 (0%)	194 (0%)	194 (0%)
Below Normal	Apr	130	130 (0%)	130 (0%)	130 (0%)	131 (1%)
Below Normal	May	7,039	7,060 (0%)	7,265 (3%)	7,060 (0%)	7,298 (4%)
Below Normal	Jun	41,012	41,114 (0%)	41,524 (1%)	41,119 (0%)	42,654 (4%)
Below Normal	Jul	10,546	10,695 (1%)	10,639 (1%)	10,697 (1%)	10,927 (4%)
Below Normal	Aug	1,323	1,340 (1%)	1,307 (-1%)	1,340 (1%)	1,335 (1%)
Below Normal	Sep	412	424 (3%)	425 (3%)	424 (3%)	422 (2%)
Below Normal	Oct	351	363 (3%)	365 (4%)	366 (4%)	399 (14%)
Below Normal	Nov	1,279	1,310 (2%)	1,374 (7%)	1,317 (3%)	1,520 (19%)
Below Normal	Dec	1,158	1,170 (1%)	1,090 (-6%)	1,164 (1%)	1,091 (-6%)
Dry	Jan	1,815	1,810 (0%)	1,813 (0%)	1,820 (0%)	1,821 (0%)
Dry	Feb	1,930	1,919 (-1%)	1,918 (-1%)	1,936 (0%)	1,976 (2%)
Dry	Mar	686	686 (0%)	686 (0%)	686 (0%)	688 (0%)
Dry	Apr	168	168 (0%)	168 (0%)	168 (0%)	169 (1%)
Dry	May	11,577	11,611 (0%)	11,948 (3%)	11,611 (0%)	12,003 (4%)
Dry	Jun	31,922	32,002 (0%)	32,321 (1%)	32,006 (0%)	33,201 (4%)
Dry	Jul	16,593	16,828 (1%)	16,740 (1%)	16,831 (1%)	17,192 (4%)
Dry	Aug	1,111	1,126 (1%)	1,098 (-1%)	1,126 (1%)	1,122 (1%)
Dry	Sep	282	290 (3%)	291 (3%)	291 (3%)	289 (2%)
Dry	Oct	2,238	2,312 (3%)	2,323 (4%)	2,328 (4%)	2,540 (14%)
Dry	Nov	742	760 (2%)	797 (7%)	764 (3%)	882 (19%)
Dry	Dec	874	883 (1%)	823 (-6%)	879 (1%)	824 (-6%)
Critically Dry	Jan	1,655	1,677 (1%)	1,681 (2%)	1,661 (0%)	1,656 (0%)
Critically Dry	Feb	2,517	2,520 (0%)	2,529 (0%)	2,519 (0%)	2,518 (0%)
Critically Dry	Mar	477	478 (0%)	529 (11%)	477 (0%)	536 (12%)
Critically Dry	Apr	268	267 (0%)	266 (-1%)	267 (0%)	268 (0%)
Critically Dry	May	15,995	16,003 (0%)	16,124 (1%)	16,017 (0%)	16,184 (1%)
Critically Dry	Jun	13,968	13,946 (0%)	13,639 (-2%)	13,969 (0%)	13,206 (-5%)

Water Year Type	Month	NAA	Alt 1A	Alt 1B	Alt 2	Alt 3
Critically Dry	Jul	3,826	3,879 (1%)	3,780 (-1%)	3,888 (2%)	3,577 (-6%)
Critically Dry	Aug	1,404	1,413 (1%)	1,407 (0%)	1,413 (1%)	1,405 (0%)
Critically Dry	Sep	282	288 (2%)	288 (2%)	289 (3%)	291 (3%)
Critically Dry	Oct	342	384 (12%)	381 (11%)	381 (11%)	378 (10%)
Critically Dry	Nov	812	824 (2%)	820 (1%)	826 (2%)	819 (1%)
Critically Dry	Dec	558	564 (1%)	564 (1%)	559 (0%)	590 (6%)

Alt = alternative; CVP = Central Valley Project; N/A = not applicable; NAA = No Action Alternative.

Note: Percentage values in parentheses indicate differences of alternatives compared to the NAA. The analysis was based on historical salvage data from 2009 through 2019, which did not include any Above Normal Water Years; hence, that row of the table is noted as N/A. The percentage difference in Above Normal Water Years is based on density data for Wet Water Years applied to Above Normal Water Year modeled exports.

11Q.3 X2-Abundance Index Regressions

Several regression equations between abundance indices of various Delta species and X2 developed by Kimmerer et al. (2009) were used to compare the NAA and Alternatives 1–3. The regression equations were implemented in a spreadsheet and consisted of the following, which were applied to DSM2-modeled monthly mean X2 outputs for NAA and Alternatives 1–3:

- Striped bass
 - Bay otter trawl index = $10^{(5.2 - 0.73 - 0.016 * (\text{Mean April-June X2}))}$
 - Bay midwater trawl index = $10^{(5.8 - 0.93 - 0.027 * (\text{Mean April-June X2}))}$
 - Fall midwater trawl index = $10^{(4.1 - 0.9 - 0.011 * (\text{Mean April-June X2}))}$
 - Summer townet index = $10^{(2.5 - 1.18 - 0.019 * (\text{Mean April-June X2}))}$
 - Summer townet survival index = $10^{(4.6 - 0.79 - 0.025 * (\text{Mean April-June X2}))}$
- American shad
 - Bay midwater trawl index = $10^{(4.9 - 0.018 * (\text{Mean February-May X2}))}$
 - Fall midwater trawl index = $10^{(4 - 0.21 - 0.013 * (\text{Mean February-May X2}))}$
- Starry flounder
 - Bay otter trawl index = $10^{(4.7 - 0.64 - 0.03 * (\text{Mean March-June X2}))}$
- Bay shrimp
 - Bay otter trawl index = $10^{(3.7 - 0.02 * (\text{Mean March-May X2}))}$

Results of the X2-abundance index regressions are presented in the main body of Chapter 11.

11Q.4 Threadfin Shad South Delta Entrainment Risk Analysis

Inference regarding potential entrainment risk to threadfin shad was made on the basis of several statistical relationships between modeled particle entrainment at the south Delta export facilities and export: inflow ratio, as developed by Kimmerer and Nobriga (2008). To correspond with the period of potential impact and the Delta locations with the highest density of threadfin shad (Feyrer et al. 2009), the analysis focused on the months of June–November for the particle release locations of San Joaquin River at Medford Island, Potato Slough, and Stockton. The logistic equations for these locations that were applied in the analysis were as follows (Nobriga pers. comm.):

- Medford Island: Proportional entrainment = $1 - (1 / (1 + 0.00592509281258315 * e^{34.8002358833536 * E}))$
- Potato Slough: Proportional entrainment = $1 - (1 / (1 + 0.0163841512024925 * e^{23.708308398635 * E}))$
- Stockton: Proportional entrainment = $1 - (1 / (1 + 0.00840706847099802 * e^{32.6988703978096 * E}))$

Results of the threadfin shad south Delta entrainment risk analysis are presented in the main body of Chapter 11.

11Q.5 References Cited

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