

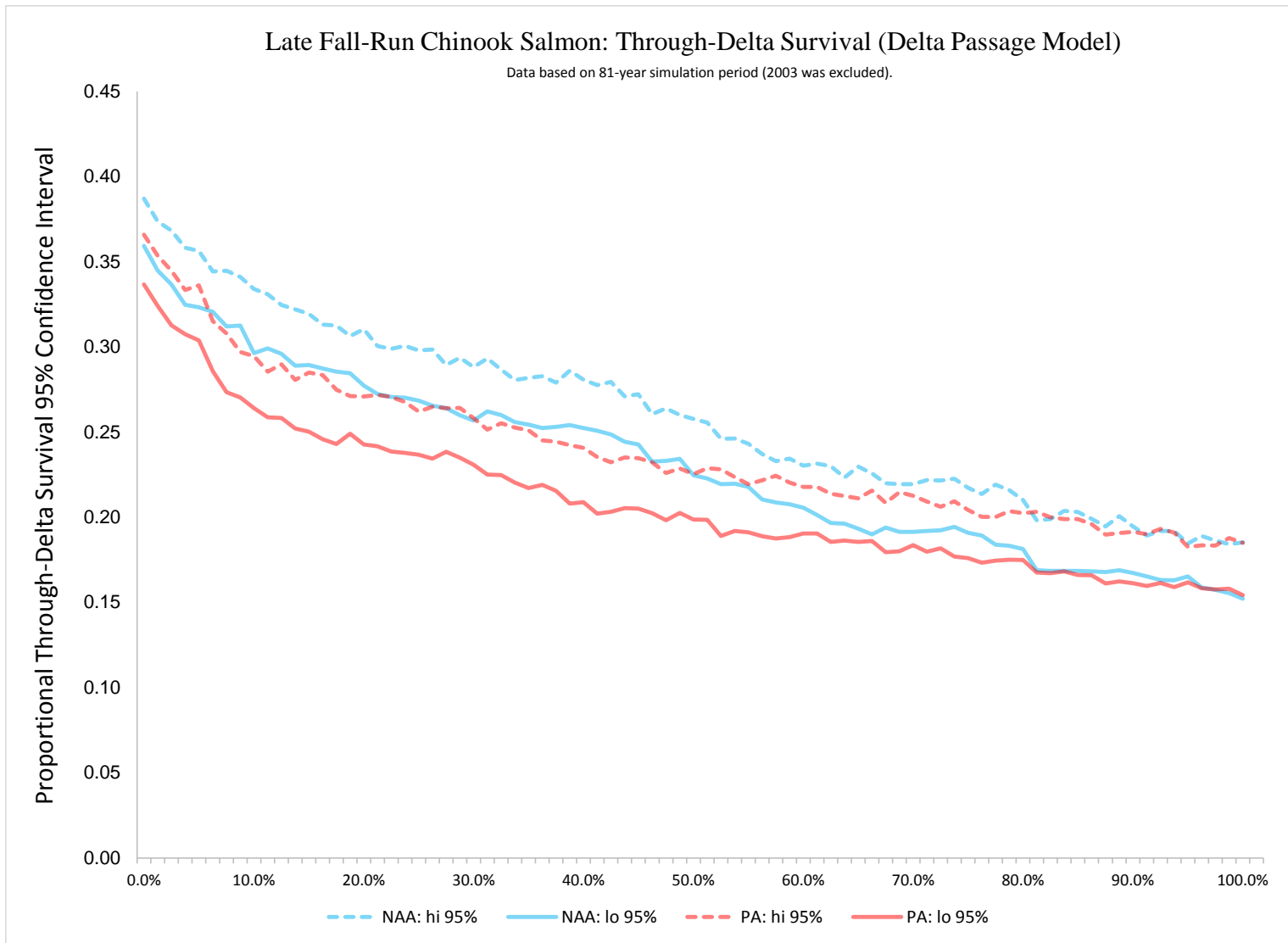
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## Appendix C

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### Section 2.5.1

### Supporting Tables and Figures



Note: Data are sorted by mean estimate, with only 95% confidence intervals shown.

**Figure 5.E-20. Exceedance Plot of Late Fall-Run Chinook Salmon Annual Through-Delta Survival Estimated from the Delta Passage Model.**

**Table 5.C.7-7. Sacramento River at Bend Bridge, Monthly Temperature**

Statistic	Monthly Temperature (Deg-F)																							
	October				November				December				January				February				March			
	NAA	PA	Diff.	Perc. Diff.	NAA	PA	Diff.	Perc. Diff.	NAA	PA	Diff.	Perc. Diff.	NAA	PA	Diff.	Perc. Diff.	NAA	PA	Diff.	Perc. Diff.	NAA	PA	Diff.	Perc. Diff.
<b>Probability of Exceedance<sup>a</sup></b>																								
10%	60.8	59.7	-1.1	-2%	55.8	55.5	-0.3	-1%	51.1	50.9	-0.2	0%	48.2	48.2	0.1	0%	48.9	49.0	0.1	0%	52.2	51.8	-0.3	-1%
20%	57.7	57.4	-0.3	-1%	55.2	54.8	-0.4	-1%	50.4	50.3	-0.1	0%	47.6	47.5	0.0	0%	48.5	48.5	0.0	0%	51.7	51.6	0.0	0%
30%	57.1	57.0	-0.1	0%	54.6	54.4	-0.2	0%	49.5	49.3	-0.2	0%	47.0	47.1	0.1	0%	48.0	48.1	0.1	0%	51.3	51.3	0.0	0%
40%	56.7	56.5	-0.3	0%	54.2	53.9	-0.2	0%	49.0	49.0	0.0	0%	46.8	46.9	0.1	0%	47.7	47.7	0.0	0%	50.9	50.9	0.0	0%
50%	56.3	56.3	0.1	0%	53.9	53.6	-0.3	-1%	48.8	48.8	0.0	0%	46.6	46.6	0.0	0%	47.4	47.4	0.0	0%	50.2	50.2	0.0	0%
60%	56.0	56.2	0.1	0%	53.3	53.1	-0.2	0%	48.4	48.4	0.0	0%	46.4	46.5	0.1	0%	47.2	47.2	0.0	0%	49.8	49.8	0.0	0%
70%	55.9	55.8	-0.1	0%	52.9	52.9	-0.1	0%	48.1	48.1	0.0	0%	46.2	46.2	0.0	0%	46.5	46.5	0.0	0%	49.1	49.1	0.0	0%
80%	55.6	55.6	0.0	0%	52.8	52.5	-0.2	0%	47.7	47.8	0.1	0%	46.0	45.9	0.0	0%	46.3	46.3	0.0	0%	48.5	48.5	0.0	0%
90%	55.3	55.4	0.1	0%	52.0	51.9	-0.2	0%	47.4	47.5	0.1	0%	45.6	45.6	0.0	0%	46.0	46.0	0.0	0%	47.8	47.8	0.0	0%
<b>Long Term Full Simulation Period<sup>b</sup></b>	57.0	57.0	0.0	0%	53.9	53.7	-0.2	0%	49.0	48.9	0.0	0%	46.7	46.8	0.1	0%	47.4	47.4	0.0	0%	50.2	50.1	-0.1	0%
<b>Water Year Types<sup>c</sup></b>																								
Wet (32%)	55.8	56.0	0.2	0%	54.2	53.9	-0.3	-1%	49.4	49.4	0.0	0%	47.0	47.1	0.1	0%	46.7	46.7	0.0	0%	48.8	48.8	0.0	0%
Above Normal (16%)	55.9	55.8	0.0	0%	53.6	53.1	-0.5	-1%	48.9	48.8	-0.1	0%	47.0	47.0	0.0	0%	46.8	46.8	0.0	0%	49.6	49.5	-0.1	0%
Below Normal (13%)	56.4	56.2	-0.3	0%	53.6	53.4	-0.1	0%	49.0	49.0	-0.1	0%	46.8	46.8	0.0	0%	47.7	47.7	0.0	0%	50.9	50.8	-0.2	0%
Dry (24%)	56.8	56.8	-0.1	0%	53.1	53.2	0.1	0%	48.6	48.6	0.0	0%	46.4	46.4	0.0	0%	47.9	48.0	0.0	0%	51.0	51.0	0.0	0%
Critical (15%)	61.7	61.4	-0.3	0%	54.8	54.9	0.1	0%	48.5	48.6	0.0	0%	46.2	46.3	0.1	0%	48.4	48.5	0.2	0%	51.6	51.5	-0.2	0%

a Exceedance probability is defined as the probability a given value will be exceeded in any one year.

b Based on the 82-year simulation period.

c As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999); projected to Year 2030. WYT for a given water year is applied from Feb through Jan consistent with CALSIM II.

d There are 26 wet years, 13 above normal years, 11 below normal years, 20 dry years, and 12 critical years projected for 2030 under Q5 climate scenario.







**Table 5.E-10. Delta Passage Model: Sacramento River Basin Fall-Run Chinook Salmon Mean Through-Delta (Total) Survival, Mainstem Sacramento River survival, and Proportion Using and Surviving Other Migration Routes.**

WY	Total Survival			Mainstem Sacramento River Survival			Yolo Bypass					
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	Proportion Using Route			Survival		
							NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.39	0.38	-0.01 (-2%)	0.43	0.41	-0.02 (-5%)	0.08	0.08	0.00 (0%)	0.47	0.47	0.00 (0%)
AN	0.29	0.28	-0.01 (-3%)	0.31	0.29	-0.02 (-5%)	0.04	0.05	0.00 (6%)	0.47	0.47	0.00 (0%)
BN	0.24	0.24	0.00 (-1%)	0.26	0.26	-0.01 (-2%)	0.03	0.03	0.00 (0%)	0.47	0.47	0.00 (0%)
D	0.24	0.23	0.00 (-1%)	0.25	0.25	0.00 (-2%)	0.03	0.03	0.00 (-5%)	0.47	0.47	0.00 (0%)
C	0.20	0.20	0.00 (-1%)	0.22	0.21	0.00 (-1%)	0.03	0.03	0.00 (-2%)	0.47	0.47	0.00 (0%)
WY	Sutter/Steamboat Sloughs						Interior Delta (Via Georgiana Slough/DCC)					
	Proportion Using Route			Survival			Proportion Using Route			Survival		
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.31	0.31	0.00 (-1%)	0.47	0.45	-0.02 (-4%)	0.26	0.26	0.00 (1%)	0.20	0.23	0.03 (14%)
AN	0.30	0.30	-0.01 (-2%)	0.35	0.33	-0.01 (-4%)	0.28	0.28	0.00 (2%)	0.16	0.17	0.01 (4%)
BN	0.29	0.29	0.00 (0%)	0.30	0.29	-0.01 (-2%)	0.29	0.29	0.00 (0%)	0.14	0.14	0.00 (2%)
D	0.29	0.29	0.00 (0%)	0.29	0.29	0.00 (-2%)	0.30	0.30	0.00 (0%)	0.13	0.14	0.00 (3%)
C	0.26	0.26	0.00 (0%)	0.26	0.26	0.00 (-1%)	0.32	0.32	0.00 (0%)	0.12	0.12	0.00 (1%)

Note: Survival in Sutter/Steamboat Sloughs and Interior Delta routes includes survival in the Sacramento River prior to entering the channel junctions.

**Table 5.E-13. Delta Passage Model: Late Fall-Run Chinook Salmon Mean Through-Delta (Total) Survival, Mainstem Sacramento River survival, and Proportion Using and Surviving Other Migration Routes.**

WY	Total Survival			Mainstem Sacramento River Survival			Yolo Bypass					
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	Proportion Using Route			Survival		
							NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.29	0.27	-0.03 (-10%)	0.33	0.29	-0.04 (-13%)	0.05	0.06	0.00 (1%)	0.47	0.47	0.00 (0%)
AN	0.25	0.23	-0.02 (-9%)	0.29	0.26	-0.04 (-12%)	0.03	0.03	0.00 (0%)	0.47	0.47	0.00 (0%)
BN	0.25	0.21	-0.03 (-13%)	0.29	0.24	-0.05 (-16%)	0.02	0.02	0.00 (6%)	0.47	0.47	0.00 (0%)
D	0.21	0.20	-0.02 (-8%)	0.25	0.22	-0.03 (-11%)	0.02	0.02	0.00 (5%)	0.47	0.47	0.00 (0%)
C	0.19	0.18	-0.01 (-3%)	0.22	0.21	-0.01 (-5%)	0.02	0.02	0.00 (0%)	0.47	0.47	0.00 (0%)
WY	Sutter/Steamboat Sloughs						Interior Delta (Via Georgiana Slough/DCC)					
	Proportion Using Route			Survival			Proportion Using Route			Survival		
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.29	0.27	-0.02 (-6%)	0.38	0.34	-0.04 (-10%)	0.30	0.32	0.02 (7%)	0.12	0.13	0.01 (11%)
AN	0.28	0.26	-0.02 (-6%)	0.34	0.31	-0.03 (-10%)	0.32	0.34	0.02 (6%)	0.11	0.12	0.01 (9%)
BN	0.28	0.26	-0.02 (-8%)	0.33	0.28	-0.04 (-13%)	0.32	0.35	0.03 (9%)	0.11	0.11	0.01 (9%)
D	0.26	0.24	-0.02 (-6%)	0.29	0.26	-0.03 (-9%)	0.35	0.37	0.02 (5%)	0.10	0.10	0.01 (8%)
C	0.24	0.23	-0.01 (-2%)	0.26	0.25	-0.01 (-4%)	0.38	0.38	0.00 (1%)	0.09	0.10	0.00 (5%)

Note: Survival in Sutter/Steamboat Sloughs and Interior Delta routes includes survival in the Sacramento River prior to entering the channel junctions.



**Table 5.E-37. Mean Annual Fall-Run Chinook Salmon Mortality<sup>1</sup> (# of Fish/Year) Predicted by SALMOD**

Analysis Period	Spawning, Egg Incubation, and Alevins							Fry and Juvenile Rearing									Grand Total
	Temperature-Related Mortality			Flow-Related Mortality			Life Stage Total	Temperature-Related Mortality				Flow-Related Mortality				Life Stage Total	
	Pre-Spawn	Eggs	Subtotal	Incubation	Super-imposition	Subtotal		Fry	Pre-smolt	Immature Smolt	Subtotal	Fry	Pre-smolt	Immature Smolt	Subtotal		
<b>All Water Year Types<sup>1</sup></b>																	
NAA	5,144,855	809,484	5,954,338	1,451,660	511,012	1,962,672	7,917,010	150	4,296	6,055	10,501	4,694,051	266,976	40,366	5,001,393	5,011,894	12,928,904
PA	5,022,884	660,993	5,683,877	1,477,164	550,222	2,027,386	7,711,263	160	3,305	5,350	8,814	4,716,470	267,867	41,632	5,025,968	5,034,783	12,746,046
Difference	-121,970	-148,491	-270,461	25,504	39,210	64,714	-205,747	10	-991	-705	-1,687	22,419	891	1,265	24,575	22,889	-182,859
Percent Difference <sup>3</sup>	-2	-18	-5	2	8	3	-3	6	-23	-12	-16	0	0	3	0	0	-1
<b>Water Year Types<sup>2</sup></b>																	
<b>Wet (32.5%)</b>																	
NAA	224,282	724,794	949,076	4,013,334	1,304,607	5,317,941	6,267,017	419	4,344	1,216	5,980	5,142,369	77,086	14,964	5,234,419	5,240,399	11,507,415
PA	81,977	213,648	295,625	4,066,702	1,436,450	5,503,152	5,798,777	472	4,231	1,943	6,645	5,194,728	75,562	16,386	5,286,676	5,293,321	11,092,098
Difference	-142,305	-511,146	-653,451	53,368	131,843	185,212	-468,240	52	-113	726	666	52,359	-1,525	1,422	52,256	52,922	-415,318
Percent Difference	-63	-71	-69	1	10	3	-7	13	-3	60	11	1	-2	10	1	1	-4
<b>Above Normal (12.5%)</b>																	
NAA	9,090,676	497,965	9,588,640	63,475	688,815	752,290	10,340,930	20	2,720	987	3,726	5,001,065	116,203	25,093	5,142,361	5,146,087	15,487,018
PA	9,476,226	106,985	9,583,211	94,913	675,539	770,452	10,353,663	19	2,397	1,086	3,502	5,134,558	124,860	26,228	5,285,646	5,289,147	15,642,810
Difference	385,550	-390,980	-5,430	31,439	-13,276	18,162	12,732	-1	-322	99	-224	133,493	8,656	1,135	143,284	143,060	155,792
Percent Difference	4	-79	0	50	-2	2	0	-5	-12	10	-6	3	7	5	3	3	1
<b>Below Normal (17.5%)</b>																	
NAA	57,594	127,629	185,223	306,984	0	306,984	492,207	0	571	872	1,443	5,201,156	404,885	55,474	5,661,515	5,662,958	6,155,165
PA	57,234	124,986	182,221	303,758	0	303,758	485,979	0	514	911	1,426	5,188,265	397,816	61,171	5,647,252	5,648,678	6,134,656
Difference	-360	-2,643	-3,003	-3,226	0	-3,226	-6,228	0	-56	39	-18	-12,890	-7,070	5,697	-14,263	-14,281	-20,509
Percent Difference	-1	-2	-2	-1	0	-1	-1	0	-10	4	-1	0	-2	10	0	0	0
<b>Dry (22.5%)</b>																	
NAA	4,432,070	732,312	5,164,382	364,687	0	364,687	5,529,069	65	2,706	1,662	4,434	4,607,491	443,967	57,263	5,108,721	5,113,155	10,642,224
PA	4,421,190	1,145,829	5,567,018	374,597	0	374,597	5,941,615	38	1,957	841	2,837	4,464,993	455,957	56,178	4,977,128	4,979,965	10,921,580
Difference	-10,880	413,517	402,637	9,910	0	9,910	412,546	-27	-749	-821	-1,597	-142,498	11,990	-1,086	-131,593	-133,190	279,356
Percent Difference	0	56	8	3	0	3	7	-41	-28	-49	-36	-3	3	-2	-3	-3	3
<b>Critical (15%)</b>																	
NAA	17,301,522	2,051,093	19,352,615	363,933	0	363,933	19,716,548	0	11,836	33,277	45,112	3,132,461	391,949	66,552	3,590,961	3,636,073	23,352,621
PA	16,417,771	1,830,250	18,248,020	377,779	0	377,779	18,625,799	0	7,087	28,295	35,382	3,288,656	378,908	67,477	3,735,041	3,770,423	22,396,222
B Difference	-883,752	-220,843	-1,104,595	13,846	0	13,846	-1,090,749	0	-4,748	-4,982	-9,730	156,195	-13,040	926	144,080	134,350	-956,399
Percent Difference	-5	-11	-6	4	0	4	-6	0	-40	-15	-22	5	-3	1	4	4	-4
<sup>1</sup> Mortality values do not include base mortality <sup>2</sup> Based on the 80-year simulation period <sup>3</sup> Relative difference of the Annual average <sup>4</sup> As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB 1995). Water years may not correspond to the biological years in SALMOD. <sup>5</sup> NA = Unable to calculate because dividing by 0																	

**Table 5.E-54. Mean Annual Late Fall-Run Chinook Salmon Mortality<sup>1</sup> (# of Fish/Year) Predicted by SALMOD**

Analysis Period	Spawning, Egg Incubation, and Alevins							Fry and Juvenile Rearing								Grand Total	
	Temperature-Related Mortality			Flow-Related Mortality			Life Stage Total	Temperature-Related Mortality				Flow-Related Mortality					Life Stage Total
	Pre-Spawn	Eggs	Subtotal	Incubation	Super-imposition	Subtotal		Fry	Pre-smolt	Immature Smolt	Subtotal	Fry	Pre-smolt	Immature Smolt	Subtotal		
<b>All Water Year Types<sup>1</sup></b>																	
NAA	0	9,621	9,621	170,413	310,055	480,468	490,089	3,759	68,139	38,185	110,083	1,776,744	14,419	567	1,791,729	1,901,812	2,391,902
PA	0	9,608	9,608	172,486	316,959	489,444	499,052	4,467	73,593	37,878	115,939	1,782,912	13,171	524	1,796,606	1,912,545	2,411,597
Difference	0	-14	-14	2,072	6,904	8,976	8,962	708	5,454	-306	5,856	6,168	-1,248	-43	4,877	10,733	19,695
Percent Difference <sup>3</sup>	0	0	0	1	2	2	2	19	8	-1	5	0	-9	-8	0	1	1
<b>Water Year Types<sup>2</sup></b>																	
<b>Wet (32.5%)</b>																	
NAA	0	11,882	11,882	482,104	814,510	1,296,614	1,308,495	64	16	11	91	1,524,182	4,222	69	1,528,473	1,528,563	2,837,059
PA	0	11,880	11,880	486,545	824,230	1,310,775	1,322,656	63	20	5	88	1,502,838	3,095	69	1,506,002	1,506,090	2,828,746
Difference	0	-1	-1	4,441	9,720	14,162	14,160	-1	4	-6	-3	-21,344	-1,128	1	-22,471	-22,473	-8,313
Percent Difference	0	0	0	1	1	1	1	-1	28	-57	-3	-1	-27	1	-1	-1	0
<b>Above Normal (12.5%)</b>																	
NAA	0	7,815	7,815	22,967	370,137	393,103	400,918	110	37	19	166	1,843,097	1,583	28	1,844,708	1,844,874	2,245,792
PA	0	7,340	7,340	23,302	395,912	419,214	426,554	108	9	0	117	1,776,429	2,595	36	1,779,061	1,779,178	2,205,732
Difference	0	-475	-475	335	25,775	26,110	25,636	-2	-28	-19	-48	-66,668	1,012	8	-65,647	-65,696	-40,060
Percent Difference	0	-6	-6	1	7	7	6	-2	-75	-100	-29	-4	64	28	-4	-4	-2
<b>Below Normal (17.5%)</b>																	
NAA	0	1,186	1,186	30,443	0	30,443	31,630	0	872	2,684	3,556	1,958,331	16,897	713	1,975,940	1,979,496	2,011,126
PA	0	3,836	3,836	30,838	0	30,838	34,674	2	2,136	5,243	7,380	2,076,131	10,865	707	2,087,704	2,095,084	2,129,758
Difference	0	2,649	2,649	395	0	395	3,044	2	1,264	2,558	3,824	117,800	-6,032	-5	111,763	115,588	118,632
Percent Difference	0	223	223	1	0	1	10	0	145	95	108	6	-36	-1	6	6	6
<b>Dry (22.5%)</b>																	
NAA	0	10,840	10,840	29,324	0	29,324	40,163	137	4,347	8,912	13,396	1,868,390	9,467	824	1,878,681	1,892,076	1,932,240
PA	0	10,538	10,538	30,352	0	30,352	40,890	101	4,144	8,692	12,937	1,898,772	13,579	938	1,913,290	1,926,227	1,967,117
Difference	0	-301	-301	1,028	0	1,028	727	-36	-203	-220	-459	30,383	4,112	114	34,609	34,151	34,878
Percent Difference	0	-3	-3	4	0	4	2	-26	-5	-2	-3	2	43	14	2	2	2
<b>Critical (15%)</b>																	
NAA	0	12,420	12,420	31,960	0	31,960	44,380	24,592	446,147	237,209	707,948	1,917,364	54,477	1,579	1,973,420	2,681,368	2,725,748
PA	0	10,879	10,879	34,110	0	34,110	44,990	29,370	481,708	233,221	744,298	1,910,995	46,172	1,099	1,958,266	2,702,564	2,747,554
Difference	0	-1,541	-1,541	2,151	0	2,151	610	4,779	35,560	-3,989	36,350	-6,369	-8,305	-481	-15,154	21,196	21,806
Percent Difference	0	-12	-12	7	0	7	1	19	8	-2	5	0	-15	-30	-1	1	1
<sup>1</sup> Based on the 80-year simulation period <sup>2</sup> As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB 1995). Water years may not correspond to the biological years in SALMOD. <sup>3</sup> Relative difference of the Annual average <sup>4</sup> Mortality values do not include base mortality																	















DSM2 Channel	Location	Water Year Type	December			January			February			March			April			May			June		
			NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
	of Georgiana Slough	BN	0.188	0.250	0.063 (33%)	0.135	0.167	0.031 (23%)	0.000	0.115	0.115 (Inf.)	0.083	0.177	0.094 (113%)	0.240	0.250	0.010 (4%)	0.292	0.292	0.000 (0%)	0.354	0.354	0.000 (0%)
		D	0.281	0.302	0.021 (7%)	0.198	0.240	0.042 (21%)	0.083	0.146	0.063 (75%)	0.000	0.146	0.146 (Inf.)	0.229	0.240	0.010 (5%)	0.281	0.281	0.000 (0%)	0.354	0.365	0.010 (3%)
		C	0.344	0.354	0.010 (3%)	0.240	0.260	0.021 (9%)	0.177	0.229	0.052 (29%)	0.292	0.292	0.000 (0%)	0.302	0.313	0.010 (3%)	0.354	0.354	0.000 (0%)	0.396	0.396	0.000 (0%)

**Table 5.4-12. Median Daily Proportion of Flow Entering Important Delta Channels, from DSM2-HYDRO Modeling, with Green Shading Indicating PA is ≥ 5% Less than NAA and Red Shading Indicating PA is ≥ 5% More than NAA(Except for Sutter/Steamboat Sloughs, where Entry is Considered Beneficial and the Color Scheme is Reversed).**

Junction	Water Year Type	December			January			February			March			April			May			June		
		NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
Sutter Slough (Entry is beneficial)	W	0.262	0.262	0.000 (0%)	0.264	0.263	-0.001 (0%)	0.267	0.265	-0.002 (-1%)	0.265	0.265	0.000 (0%)	0.263	0.263	0.000 (0%)	0.263	0.263	0.000 (0%)	0.219	0.193	-0.026 (-12%)
	AN	0.259	0.257	-0.002 (-1%)	0.261	0.261	0.000 (0%)	0.263	0.263	0.000 (0%)	0.262	0.263	0.001 (0%)	0.262	0.261	-0.001 (0%)	0.262	0.258	-0.004 (-2%)	0.181	0.174	-0.007 (-4%)
	BN	0.257	0.252	-0.005 (-2%)	0.259	0.258	-0.001 (0%)	0.261	0.261	0.000 (0%)	0.260	0.259	-0.001 (0%)	0.261	0.259	-0.002 (-1%)	0.240	0.238	-0.002 (-1%)	0.175	0.181	0.006 (3%)
	D	0.227	0.219	-0.008 (-4%)	0.256	0.254	-0.002 (-1%)	0.260	0.259	-0.001 (0%)	0.260	0.259	-0.001 (0%)	0.259	0.259	0.000 (0%)	0.242	0.239	-0.003 (-1%)	0.173	0.174	0.001 (1%)
	C	0.195	0.185	-0.010 (-5%)	0.254	0.247	-0.007 (-3%)	0.259	0.256	-0.003 (-1%)	0.249	0.239	-0.010 (-4%)	0.230	0.225	-0.005 (-2%)	0.199	0.195	-0.004 (-2%)	0.151	0.152	0.001 (1%)
Steamboat Slough (Entry is beneficial)	W	0.254	0.242	-0.012 (-5%)	0.278	0.272	-0.006 (-2%)	0.291	0.284	-0.007 (-2%)	0.277	0.270	-0.007 (-3%)	0.257	0.253	-0.004 (-2%)	0.252	0.249	-0.003 (-1%)	0.182	0.180	-0.002 (-1%)
	AN	0.207	0.203	-0.004 (-2%)	0.259	0.248	-0.011 (-4%)	0.279	0.272	-0.007 (-3%)	0.263	0.257	-0.006 (-2%)	0.238	0.229	-0.009 (-4%)	0.202	0.203	0.001 (0%)	0.164	0.169	0.005 (3%)
	BN	0.200	0.193	-0.007 (-4%)	0.213	0.209	-0.004 (-2%)	0.238	0.220	-0.018 (-8%)	0.218	0.205	-0.013 (-6%)	0.196	0.196	0.000 (0%)	0.192	0.194	0.002 (1%)	0.164	0.168	0.004 (2%)
	D	0.192	0.190	-0.002 (-1%)	0.199	0.197	-0.002 (-1%)	0.222	0.210	-0.012 (-5%)	0.232	0.212	-0.020 (-9%)	0.197	0.198	0.001 (1%)	0.192	0.194	0.002 (1%)	0.163	0.169	0.006 (4%)
	C	0.192	0.193	0.001 (1%)	0.198	0.196	-0.002 (-1%)	0.203	0.199	-0.004 (-2%)	0.193	0.194	0.001 (1%)	0.190	0.191	0.001 (1%)	0.191	0.193	0.002 (1%)	0.180	0.183	0.003 (2%)
Delta Cross Channel (Entry is adverse)	W	0.006	0.007	0.001 (17%)	0.004	0.004	0.000 (0%)	0.003	0.003	0.000 (0%)	0.004	0.004	0.000 (0%)	0.005	0.006	0.001 (20%)	0.006	0.006	0.000 (0%)	0.386	0.379	-0.007 (-2%)
	AN	0.009	0.010	0.001 (11%)	0.005	0.006	0.001 (20%)	0.004	0.004	0.000 (0%)	0.005	0.006	0.001 (20%)	0.007	0.008	0.001 (14%)	0.010	0.011	0.001 (10%)	0.432	0.426	-0.006 (-1%)
	BN	0.009	0.010	0.001 (11%)	0.009	0.009	0.000 (0%)	0.007	0.008	0.001 (14%)	0.008	0.009	0.001 (13%)	0.010	0.010	0.000 (0%)	0.011	0.011	0.000 (0%)	0.437	0.430	-0.007 (-2%)
	D	0.011	0.011	0.000 (0%)	0.010	0.010	0.000 (0%)	0.008	0.009	0.001 (13%)	0.008	0.009	0.001 (13%)	0.010	0.010	0.000 (0%)	0.011	0.011	0.000 (0%)	0.442	0.429	-0.013 (-3%)
	C	0.013	0.013	0.000 (0%)	0.010	0.010	0.000 (0%)	0.009	0.010	0.001 (11%)	0.011	0.011	0.000 (0%)	0.011	0.011	0.000 (0%)	0.012	0.013	0.001 (8%)	0.389	0.379	-0.010 (-3%)
Georgiana Slough (Entry is adverse)	W	0.314	0.342	0.028 (9%)	0.293	0.295	0.002 (1%)	0.291	0.292	0.001 (0%)	0.292	0.293	0.001 (0%)	0.302	0.304	0.002 (1%)	0.307	0.311	0.004 (1%)	0.396	0.393	-0.003 (-1%)
	AN	0.395	0.401	0.006 (2%)	0.304	0.327	0.023 (8%)	0.292	0.293	0.001 (0%)	0.299	0.302	0.003 (1%)	0.336	0.360	0.024 (7%)	0.417	0.405	-0.012 (-3%)	0.420	0.402	-0.018 (-4%)
	BN	0.411	0.418	0.007 (2%)	0.396	0.400	0.004 (1%)	0.339	0.379	0.040 (12%)	0.391	0.417	0.026 (7%)	0.424	0.416	-0.008 (-2%)	0.433	0.422	-0.011 (-3%)	0.414	0.412	-0.002 (0%)
	D	0.415	0.419	0.004 (1%)	0.421	0.423	0.002 (0%)	0.382	0.400	0.018 (5%)	0.366	0.406	0.040 (11%)	0.416	0.411	-0.005 (-1%)	0.432	0.423	-0.009 (-2%)	0.415	0.403	-0.012 (-3%)
	C	0.387	0.384	-0.003 (-1%)	0.412	0.428	0.016 (4%)	0.418	0.416	-0.002 (0%)	0.431	0.429	-0.002 (0%)	0.440	0.434	-0.006 (-1%)	0.404	0.397	-0.007 (-2%)	0.363	0.347	-0.016 (-4%)
Head of Old River (Entry is adverse)	W	0.649	0.642	-0.007 (-1%)	0.580	0.322	-0.258 (-44%)	0.537	0.282	-0.255 (-47%)	0.534	0.323	-0.211 (-40%)	0.525	0.259	-0.266 (-51%)	0.527	0.259	-0.268 (-51%)	0.515	0.497	-0.018 (-3%)
	AN	0.663	0.661	-0.002 (0%)	0.616	0.349	-0.267 (-43%)	0.577	0.280	-0.297 (-51%)	0.560	0.264	-0.296 (-53%)	0.529	0.253	-0.276 (-52%)	0.537	0.252	-0.285 (-53%)	0.530	0.474	-0.056 (-11%)
	BN	0.679	0.667	-0.012 (-2%)	0.635	0.342	-0.293 (-46%)	0.602	0.353	-0.249 (-41%)	0.611	0.289	-0.322 (-53%)	0.559	0.264	-0.295 (-53%)	0.581	0.279	-0.302 (-52%)	0.504	0.412	-0.092 (-18%)
	D	0.667	0.662	-0.005 (-1%)	0.647	0.362	-0.285 (-44%)	0.634	0.371	-0.263 (-41%)	0.629	0.385	-0.244 (-39%)	0.597	0.322	-0.275 (-46%)	0.602	0.335	-0.267 (-44%)	0.467	0.377	-0.090 (-19%)

Junction	Water Year Type	December			January			February			March			April			May			June		
		NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
Turner Cut (Entry is adverse)	C	0.642	0.639	-0.003 (-2%)	0.638	0.405	-0.233 (-37%)	0.622	0.383	-0.239 (-38%)	0.594	0.398	-0.196 (-33%)	0.567	0.393	-0.174 (-31%)	0.580	0.383	-0.197 (-34%)	0.367	0.307	-0.060 (-16%)
	W	0.176	0.173	-0.003 (-2%)	0.176	0.181	0.005 (3%)	0.191	0.187	-0.004 (-2%)	0.197	0.190	-0.007 (-4%)	0.180	0.189	0.009 (5%)	0.177	0.187	0.010 (6%)	0.190	0.183	-0.007 (-4%)
	AN	0.171	0.169	-0.002 (-1%)	0.167	0.174	0.007 (4%)	0.175	0.185	0.010 (6%)	0.182	0.185	0.003 (2%)	0.170	0.188	0.018 (11%)	0.167	0.186	0.019 (11%)	0.173	0.173	0.000 (0%)
	BN	0.177	0.172	-0.005 (-3%)	0.165	0.168	0.003 (2%)	0.169	0.181	0.012 (7%)	0.169	0.181	0.012 (7%)	0.164	0.182	0.018 (11%)	0.161	0.176	0.015 (9%)	0.163	0.164	0.001 (1%)
	D	0.168	0.167	-0.001 (-1%)	0.164	0.170	0.006 (4%)	0.161	0.170	0.009 (6%)	0.159	0.168	0.009 (6%)	0.157	0.170	0.013 (8%)	0.157	0.168	0.011 (7%)	0.160	0.160	0.000 (0%)
	C	0.161	0.161	0.000 (0%)	0.161	0.167	0.006 (4%)	0.158	0.166	0.008 (5%)	0.152	0.159	0.007 (5%)	0.150	0.157	0.007 (5%)	0.151	0.158	0.007 (5%)	0.153	0.153	0.000 (0%)
Columbia Cut (Entry is adverse)	W	0.169	0.166	-0.003 (-2%)	0.166	0.163	-0.003 (-2%)	0.171	0.161	-0.010 (-6%)	0.173	0.157	-0.016 (-9%)	0.155	0.157	0.002 (1%)	0.155	0.157	0.002 (1%)	0.169	0.161	-0.008 (-5%)
	AN	0.166	0.164	-0.002 (-1%)	0.161	0.162	0.001 (1%)	0.165	0.165	0.000 (0%)	0.166	0.158	-0.008 (-5%)	0.153	0.160	0.007 (5%)	0.151	0.159	0.008 (5%)	0.164	0.161	-0.003 (-2%)
	BN	0.171	0.167	-0.004 (-2%)	0.160	0.158	-0.002 (-1%)	0.162	0.165	0.003 (2%)	0.161	0.164	0.003 (2%)	0.151	0.160	0.009 (6%)	0.149	0.158	0.009 (6%)	0.157	0.156	-0.001 (-1%)
	D	0.164	0.163	-0.001 (-1%)	0.159	0.161	0.002 (1%)	0.156	0.160	0.004 (3%)	0.153	0.158	0.005 (3%)	0.149	0.156	0.007 (5%)	0.148	0.154	0.006 (4%)	0.154	0.152	-0.002 (-1%)
	C	0.158	0.157	-0.001 (-1%)	0.157	0.160	0.003 (2%)	0.152	0.158	0.006 (4%)	0.147	0.151	0.004 (3%)	0.144	0.148	0.004 (3%)	0.144	0.149	0.005 (3%)	0.147	0.147	0.000 (0%)
Middle River (Entry is adverse)	W	0.189	0.186	-0.003 (-2%)	0.183	0.178	-0.005 (-3%)	0.185	0.174	-0.011 (-6%)	0.184	0.168	-0.016 (-9%)	0.167	0.168	0.001 (1%)	0.169	0.169	0.000 (0%)	0.186	0.176	-0.010 (-5%)
	AN	0.190	0.187	-0.003 (-2%)	0.180	0.178	-0.002 (-1%)	0.182	0.180	-0.002 (-1%)	0.183	0.173	-0.010 (-5%)	0.170	0.175	0.005 (3%)	0.170	0.174	0.004 (2%)	0.183	0.180	-0.003 (-2%)
	BN	0.194	0.189	-0.005 (-3%)	0.182	0.175	-0.007 (-4%)	0.180	0.180	0.000 (0%)	0.181	0.179	-0.002 (-1%)	0.171	0.176	0.005 (3%)	0.170	0.175	0.005 (3%)	0.178	0.177	-0.001 (-1%)
	D	0.188	0.186	-0.002 (-1%)	0.181	0.180	-0.001 (-1%)	0.179	0.178	-0.001 (-1%)	0.177	0.178	0.001 (1%)	0.171	0.175	0.004 (2%)	0.170	0.174	0.004 (2%)	0.176	0.175	-0.001 (-1%)
	C	0.180	0.180	0.000 (0%)	0.179	0.179	0.000 (0%)	0.175	0.176	0.001 (1%)	0.171	0.172	0.001 (1%)	0.169	0.172	0.003 (2%)	0.169	0.172	0.003 (2%)	0.170	0.170	0.000 (0%)
Mouth of Old River (Entry is adverse)	W	0.178	0.174	-0.004 (-2%)	0.177	0.172	-0.005 (-3%)	0.181	0.170	-0.011 (-6%)	0.177	0.164	-0.013 (-7%)	0.162	0.161	-0.001 (-1%)	0.163	0.161	-0.002 (-1%)	0.174	0.167	-0.007 (-4%)
	AN	0.174	0.172	-0.002 (-1%)	0.173	0.171	-0.002 (-1%)	0.175	0.172	-0.003 (-2%)	0.173	0.164	-0.009 (-5%)	0.159	0.162	0.003 (2%)	0.159	0.161	0.002 (1%)	0.171	0.169	-0.002 (-1%)
	BN	0.177	0.173	-0.004 (-2%)	0.168	0.164	-0.004 (-2%)	0.169	0.169	0.000 (0%)	0.165	0.164	-0.001 (-1%)	0.158	0.162	0.004 (3%)	0.158	0.161	0.003 (2%)	0.167	0.167	0.000 (0%)
	D	0.171	0.170	-0.001 (-1%)	0.167	0.166	-0.001 (-1%)	0.165	0.165	0.000 (0%)	0.162	0.163	0.001 (1%)	0.158	0.161	0.003 (2%)	0.158	0.160	0.002 (1%)	0.166	0.164	-0.002 (-1%)
	C	0.166	0.165	-0.001 (-1%)	0.166	0.166	0.000 (0%)	0.163	0.163	0.000 (0%)	0.157	0.159	0.002 (1%)	0.155	0.156	0.001 (1%)	0.156	0.158	0.002 (1%)	0.161	0.161	0.000 (0%)

**Table 5.4-13. Delta Passage Model: Winter-Run Chinook Salmon Mean Through-Delta (Total) Survival, Mainstem Sacramento River survival, and Proportion Using and Surviving Other Migration Routes.**

WY	Total Survival			Mainstem Sacramento River Survival			Yolo Bypass					
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	Proportion Using Route			Survival		
							NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.43	0.43	-0.01 (-2%)	0.48	0.46	-0.02 (-5%)	0.22	0.22	0.00 (1%)	0.47	0.47	0.00 (0%)
AN	0.40	0.39	-0.01 (-2%)	0.44	0.42	-0.02 (-6%)	0.16	0.17	0.00 (1%)	0.47	0.47	0.00 (0%)
BN	0.31	0.29	-0.02 (-6%)	0.34	0.31	-0.03 (-8%)	0.06	0.06	0.00 (2%)	0.47	0.47	0.00 (0%)
D	0.30	0.28	-0.02 (-7%)	0.33	0.30	-0.03 (-8%)	0.06	0.06	0.00 (2%)	0.47	0.47	0.00 (0%)
C	0.25	0.24	-0.01 (-4%)	0.27	0.26	-0.01 (-4%)	0.03	0.03	0.00 (0%)	0.47	0.47	0.00 (0%)
WY	Sutter/Steamboat Sloughs						Interior Delta (Via Georgiana Slough/DCC)					
	Proportion Using Route			Survival			Proportion Using Route			Survival		
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.29	0.28	-0.01 (-2%)	0.52	0.50	-0.02 (-4%)	0.26	0.26	0.00 (2%)	0.18	0.23	0.05 (28%)
AN	0.30	0.29	-0.01 (-2%)	0.49	0.46	-0.02 (-5%)	0.26	0.27	0.01 (2%)	0.17	0.20	0.03 (19%)
BN	0.31	0.30	-0.01 (-2%)	0.38	0.35	-0.03 (-7%)	0.27	0.28	0.01 (2%)	0.14	0.15	0.01 (5%)
D	0.30	0.30	-0.01 (-2%)	0.37	0.34	-0.03 (-8%)	0.27	0.28	0.01 (2%)	0.14	0.14	0.00 (0%)
C	0.29	0.29	0.00 (-1%)	0.31	0.30	-0.01 (-4%)	0.29	0.29	0.00 (1%)	0.13	0.12	0.00 (-1%)

Note: Survival in Sutter/Steamboat Sloughs and Interior Delta routes includes survival in the Sacramento River prior to entering the channel junctions.

**Table 5.4-14. Delta Passage Model: Spring-Run Chinook Salmon Mean Through-Delta (Total) Survival, Mainstem Sacramento River survival, and Proportion Using and Surviving Other Migration Routes.**

WY	Total Survival			Mainstem Sacramento River Survival			Yolo Bypass					
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	Proportion Using Route			Survival		
							NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.42	0.42	0.00 (-1%)	0.46	0.44	-0.02 (-4%)	0.19	0.19	0.00 (1%)	0.47	0.47	0.00 (0%)
AN	0.37	0.36	-0.01 (-2%)	0.39	0.37	-0.02 (-5%)	0.13	0.14	0.01 (5%)	0.47	0.47	0.00 (0%)
BN	0.27	0.26	-0.01 (-3%)	0.29	0.28	-0.01 (-4%)	0.04	0.04	0.00 (-2%)	0.47	0.47	0.00 (0%)
D	0.28	0.27	-0.01 (-4%)	0.30	0.28	-0.01 (-5%)	0.05	0.05	0.00 (-1%)	0.47	0.47	0.00 (0%)
C	0.22	0.22	0.00 (-1%)	0.24	0.23	0.00 (-1%)	0.03	0.03	0.00 (-2%)	0.47	0.47	0.00 (0%)
WY	Sutter/Steamboat Sloughs						Interior Delta (Via Georgiana Slough/DCC)					
	Proportion Using Route			Survival			Proportion Using Route			Survival		
	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA	NAA	PA	PA vs. NAA
W	0.29	0.28	0.00 (-1%)	0.50	0.48	-0.02 (-4%)	0.26	0.26	0.00 (1%)	0.21	0.25	0.04 (19%)
AN	0.29	0.29	-0.01 (-2%)	0.43	0.41	-0.02 (-4%)	0.27	0.27	0.00 (1%)	0.19	0.21	0.02 (11%)
BN	0.30	0.30	0.00 (-1%)	0.32	0.31	-0.01 (-4%)	0.28	0.28	0.00 (1%)	0.15	0.15	0.00 (2%)
D	0.30	0.29	0.00 (-1%)	0.34	0.32	-0.01 (-4%)	0.28	0.28	0.00 (1%)	0.15	0.15	0.00 (1%)
C	0.28	0.28	0.00 (0%)	0.28	0.27	0.00 (-1%)	0.30	0.30	0.00 (0%)	0.13	0.13	0.00 (1%)

Note: Survival in Sutter/Steamboat Sloughs and Interior Delta routes includes survival in the Sacramento River prior to entering the channel junctions.

**Table 5.4-38. Mean Annual Winter-Run Chinook Salmon Mortality<sup>1</sup> (# of Fish/Year) Predicted by SALMOD**

Analysis Period	Spawning, Egg Incubation, and Alevins							Fry and Juvenile Rearing							Life Stage Total	Grand Total	
	Temperature-Related Mortality			Flow-Related Mortality			Life Stage Total	Temperature-Related Mortality				Flow-Related Mortality					Life Stage Total
	Pre-Spawn	Eggs	Subtotal	Incubation	Super-imposition	Subtotal		Fry	Pre-smolt	Immature Smolt	Subtotal	Fry	Pre-smolt	Immature Smolt			
<b>All Water Year Types<sup>2</sup></b>																	
NAA	9,092	423,231	432,323	368,939	0	368,939	801,262	5,343	2,391	0	7,734	123,789	115	0	123,904	131,638	932,900
PA	9,119	391,450	400,568	430,651	0	430,651	831,220	5,495	2,125	0	7,620	120,680	104	0	120,784	128,404	959,624
Difference	27	-31,781	-31,755	61,712	0	61,712	29,958	152	-266	0	-114	-3,109	-11	0	-3,120	-3,234	26,723
Percent Difference <sup>3</sup>	0	-8	-7	17	0	17	4	3	-11	0	-1	-3	-10	0	-3	-2	3
<b>Water Year Types<sup>4</sup></b>																	
<b>Wet (32.5%)</b>																	
NAA	8,774	806	9,580	167,602	0	167,602	177,182	0	0	0	0	173,745	36	0	173,781	173,781	350,962
PA	8,890	670	9,560	244,211	0	244,211	253,771	0	0	0	0	154,086	27	0	154,113	154,113	407,884
Difference	116	-136	-19	76,609	0	76,609	76,589	0	0	0	0	-19,659	-9	0	-19,667	-19,667	56,922
Percent Difference	1	-17	0	46	0	46	43	0	0	0	NA	-11	-25	0	-11	-11	16
<b>Above Normal (12.5%)</b>																	
NAA	9,001	457	9,459	316,112	0	316,112	325,570	0	0	0	0	159,631	24	0	159,655	159,655	485,225
PA	9,001	376	9,378	369,936	0	369,936	379,313	0	0	0	0	139,838	16	0	139,854	139,854	519,167
Difference	0	-81	-81	53,824	0	53,824	53,743	0	0	0	0	-19,793	-8	0	-19,801	-19,801	33,942
Percent Difference	0	-18	-1	17	0	17	17	0	0	0	NA	-12	-32	0	-12	-12	7
<b>Below Normal (17.5%)</b>																	
NAA	7,909	8,021	15,930	587,438	0	587,438	603,368	10	1	0	11	95,189	127	0	95,316	95,327	698,696
PA	8,455	12,730	21,184	714,331	0	714,331	735,515	11	1	0	12	105,939	117	0	106,056	106,068	841,584
Difference	545	4,709	5,254	126,893	0	126,893	132,147	1	0	0	1	10,749	-10	0	10,740	10,741	142,888
Percent Difference	7	59	33	22	0	22	22	15	-8	0	12	11	-8	0	11	11	20
<b>Dry (22.5%)</b>																	
NAA	9,789	29,678	39,467	610,519	0	610,519	649,986	24	6	0	30	106,542	246	0	106,788	106,818	756,803
PA	9,474	21,650	31,123	648,552	0	648,552	679,676	25	4	0	29	122,973	182	0	123,155	123,184	802,859
Difference	-316	-8,028	-8,344	38,034	0	38,034	29,690	1	-2	0	-1	16,431	-64	0	16,367	16,366	46,056
Percent Difference	-3	-27	-21	6	0	6	5	5	-33	0	-3	15	-26	0	15	15	6
<b>Critical (15%)</b>																	
NAA	9,853	2,764,994	2,774,847	275,207	0	275,207	3,050,054	35,573	15,929	0	51,502	33,235	160	0	33,395	84,897	3,134,950
PA	9,779	2,561,888	2,571,667	290,273	0	290,273	2,861,940	36,581	14,162	0	50,743	39,024	223	0	39,247	89,990	2,951,930
Difference	-74	-203,106	-203,180	15,066	0	15,066	-188,113	1,008	-1,767	0	-759	5,789	63	0	5,852	5,093	-183,021
Percent Difference	-1	-7	-7	5	0	5	-6	3	-11	0	-1	17	40	0	18	6	-6

<sup>1</sup> Mortality values do not include base mortality

<sup>2</sup> Based on the 80-year simulation period

<sup>3</sup> Relative difference of the Annual average

<sup>4</sup> As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (State Water Resources Control Board 1995). Water years may not correspond to the biological years in SALMOD.

**Table 5.4-54. Mean Annual Spring-Run Chinook Salmon Mortality<sup>1</sup> (# of Fish/Year) Predicted by SALMOD**

Analysis Period	Spawning, Egg Incubation, and Alevins							Fry and Juvenile Rearing								Grand Total	
	Temperature-Related Mortality			Flow-Related Mortality			Life Stage Total	Temperature-Related Mortality				Flow-Related Mortality					Life Stage Total
	Pre-Spawn	Eggs	Subtotal	Incubation	Super-imposition	Subtotal		Fry	Pre-smolt	Immature Smolt	Subtotal	Fry	Pre-smolt	Immature Smolt	Subtotal		
<b>All Water Year Types<sup>2</sup></b>																	
NAA	46,032	124,013	170,045	1,905	0	1,905	171,950	1	0	0	1	2,265	0	0	2,265	2,265	174,215
PA	50,462	107,473	157,935	2,118	0	2,118	160,053	0	0	0	0	2,273	0	0	2,273	2,273	162,325
Difference	4,431	-16,540	-12,110	212	0	212	-11,898	-1	0	0	-1	8	0	0	8	7	-11,890
Percent Difference <sup>3</sup>	10	-13	-7	11	0	11	-7	-100	0	0	-100	0	0	0	0	0	-7
<b>Water Year Types<sup>4</sup></b>																	
<b>Wet (32.5%)</b>																	
NAA	116	6,530	6,646	1,336	0	1,336	7,983	0	0	0	0	2,614	0	0	2,614	2,614	10,597
PA	117	5,835	5,952	1,748	0	1,748	7,699	0	0	0	0	2,815	0	0	2,815	2,815	10,514
Difference	1	-695	-695	411	0	411	-283	0	0	0	0	200	0	0	200	200	-83
Percent Difference	0	-11	-10	31	0	31	-4	0	0	0	NA <sup>5</sup>	8	0	0	8	8	-1
<b>Above Normal (12.5%)</b>																	
NAA	78	4,181	4,258	1,162	0	1,162	5,420	0	0	0	0	2,703	0	0	2,703	2,703	8,124
PA	65	3,888	3,953	1,509	0	1,509	5,463	0	0	0	0	2,354	0	0	2,354	2,354	7,816
Difference	-12	-293	-305	347	0	347	42	0	0	0	0	-350	0	0	-350	-350	-307
Percent Difference	-16	-7	-7	30	0	30	1	0	0	0	NA	-13	0	0	-13	-13	-4
<b>Below Normal (17.5%)</b>																	
NAA	154	34,929	35,084	1,300	0	1,300	36,384	0	0	0	0	2,634	0	0	2,634	2,634	39,018
PA	309	41,242	41,551	1,711	0	1,711	43,262	0	0	0	0	2,591	0	0	2,591	2,591	45,853
Difference	155	6,313	6,467	411	0	411	6,878	0	0	0	0	-43	0	0	-43	-43	6,835
Percent Difference	100	18	18	32	0	32	19	0	0	0	NA	-2	0	0	-2	-2	18
<b>Dry (22.5%)</b>																	
NAA	1,093	66,312	67,406	3,652	0	3,652	71,058	0	0	0	0	2,468	0	0	2,468	2,468	73,526
PA	995	64,050	65,045	3,422	0	3,422	68,467	0	0	0	0	2,438	0	0	2,438	2,438	70,905
Difference	-98	-2,263	-2,361	-230	0	-230	-2,591	0	0	0	0	-30	0	0	-30	-30	-2,621
Percent Difference	-9	-3	-4	-6	0	-6	-4	0	0	0	NA	-1	0	0	-1	-1	-4
<b>Critical (15%)</b>																	
NAA	304,677	671,412	976,089	1,670	0	1,670	977,759	3	0	0	3	408	0	0	408	411	978,170
PA	334,238	560,737	894,976	1,835	0	1,835	896,811	0	0	0	0	463	0	0	463	463	897,274
Difference	29,562	-110,675	-81,113	165	0	165	-80,949	-3	0	0	-3	55	0	0	55	52	-80,897
Percent Difference	10	-16	-8	10	0	10	-8	-100	0	0	-100	14	0	0	14	13	-8

<sup>1</sup> Mortality values do not include base mortality

<sup>2</sup> Based on the 80-year simulation period

<sup>3</sup> Relative difference of the Annual average

<sup>4</sup> As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (State Water Resources Control Board 1995). Water years may not correspond to the biological years in SALMOD.

<sup>5</sup> NA = Unable to calculate because dividing by 0