

**Table 1a-1 Mortality of Winter-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	9,120	401,649	47,782	585	101,914	149	6	561,206
ALT1A 051722	8,820	396,862	44,005	622	102,810	166	5	553,291
Difference	-300	-4,786	-3,777	37	896	17	-1	-7,915
Percent Difference ³	-3	-1	-8	6	1	11	-19	-1
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	9,023	377,196	454	0	132,085	0	4	518,761
ALT1A 051722	8,907	374,480	439	0	131,045	0	2	514,874
Difference	-115	-2,716	-15	0	-1,040	0	-2	-3,887
Percent Difference	-1	-1	-3	0	-1	0	-43	-1
Above Normal (14.6%)								
NOACTION 051422	10,200	300,781	370,997	4,683	104,907	1,195	3	792,764
ALT1A 051722	10,200	299,873	340,818	4,977	107,885	1,330	0	765,083
Difference	0	-908	-30,179	294	2,978	135	-3	-27,682
Percent Difference	0	0	-8	6	3	11	-100	-3
Below Normal (17.1%)								
NOACTION 051422	7,929	383,693	1,423	0	88,278	0	1	481,322
ALT1A 051722	7,286	389,095	1,963	0	92,240	0	1	490,584
Difference	-643	5,402	540	0	3,963	0	0	9,262
Percent Difference	-8	1	38	0	4	0	0	2
Dry (22%)								
NOACTION 051422	9,168	473,699	1,334	0	87,013	0	11	571,226
ALT1A 051722	8,501	457,788	1,275	0	85,003	0	6	552,572
Difference	-668	-15,911	-60	0	-2,010	0	-5	-18,654
Percent Difference	-7	-3	-4	0	-2	0	-48	-3
Critical (14.6%)								
NOACTION 051422	9,751	451,558	4,739	0	72,310	0	14	538,371
ALT1A 051722	9,750	443,853	4,198	1	76,446	1	20	534,269
Difference	-1	-7,704	-540	1	4,137	1	6	-4,102
Percent Difference	0	-2	-11	0	6	0	41	-1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1a-2 Mortality of Winter-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	9,120	401,649	47,782	585	101,914	149	6	561,206
ALT1B 051722	8,777	390,400	40,259	551	104,381	156	4	544,529
Difference	-343	-11,249	-7,523	-34	2,468	7	-3	-16,677
Percent Difference ³	-4	-3	-16	-6	2	5	-42	-3
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	9,023	377,196	454	0	132,085	0	4	518,761
ALT1B 051722	9,121	356,560	430	0	132,567	0	1	498,680
Difference	99	-20,636	-24	0	483	0	-3	-20,081
Percent Difference	1	-5	-5	0	0	0	-73	-4
Above Normal (14.6%)								
NOACTION 051422	10,200	300,781	370,997	4,683	104,907	1,195	3	792,764
ALT1B 051722	9,300	309,289	311,151	4,407	105,187	1,250	0	740,584
Difference	-900	8,508	-59,846	-275	280	56	-3	-52,180
Percent Difference	-9	3	-16	-6	0	5	-100	-7
Below Normal (17.1%)								
NOACTION 051422	7,929	383,693	1,423	0	88,278	0	1	481,322
ALT1B 051722	7,500	383,375	1,788	0	97,074	0	6	489,742
Difference	-429	-318	365	0	8,796	0	5	8,420
Percent Difference	-5	0	26	0	10	0	1,014	2
Dry (22%)								
NOACTION 051422	9,168	473,699	1,334	0	87,013	0	11	571,226
ALT1B 051722	8,667	449,489	1,294	0	87,508	0	4	546,962
Difference	-501	-24,211	-40	0	495	0	-8	-24,265
Percent Difference	-5	-5	-3	0	1	0	-68	-4
Critical (14.6%)								
NOACTION 051422	9,751	451,558	4,739	0	72,310	0	14	538,371
ALT1B 051722	9,250	450,875	4,143	0	76,477	0	10	540,755
Difference	-501	-683	-596	0	4,167	0	-4	2,384
Percent Difference	-5	0	-13	0	6	0	-28	0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1a-3 Mortality of Winter-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Total	
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		Juvenile Habitat
Long-term								
Full Simulation Period¹								
NOACTION 051422	9,120	401,649	47,782	585	101,914	149	6	561,206
ALT2 051722	8,820	397,728	44,029	621	103,260	169	4	554,631
Difference	-300	-3,921	-3,754	36	1,346	20	-2	-6,575
Percent Difference ³	-3	-1	-8	6	1	13	-40	-1
Water Year Types²								
Wet (32.9%)								
NOACTION 051422	9,022	374,656	439	0	129,154	0	3	513,274
ALT2 051722	8,912	371,732	425	0	128,840	0	2	509,910
Difference	-110	-2,924	-14	0	-314	0	-2	-3,364
Percent Difference	-1	-1	-3	0	0	0	-44	-1
Above Normal (12.2%)								
NOACTION 051422	10,125	327,975	463,701	5,854	108,781	1,494	3	917,932
ALT2 051722	10,125	325,252	425,955	6,215	113,607	1,693	1	882,848
Difference	0	-2,724	-37,746	361	4,827	200	-2	-35,084
Percent Difference	0	-1	-8	6	4	13	-68	-4
Below Normal (18.3%)								
NOACTION 051422	8,200	363,139	1,349	0	90,784	0	0	463,472
ALT2 051722	7,400	367,258	2,000	0	95,982	0	2	472,643
Difference	-800	4,119	652	0	5,198	0	2	9,170
Percent Difference	-10	1	48	0	6	0	429	2
Dry (22%)								
NOACTION 051422	9,168	473,699	1,334	0	87,013	0	11	571,226
ALT2 051722	8,501	457,607	1,206	0	85,434	0	5	552,752
Difference	-668	-16,093	-129	0	-1,579	0	-6	-18,475
Percent Difference	-7	-3	-10	0	-2	0	-55	-3
Critical (14.6%)								
NOACTION 051422	9,751	451,558	4,739	0	72,310	0	14	538,371
ALT2 051722	10,000	452,803	4,290	0	74,643	0	9	541,745
Difference	249	1,246	-449	0	2,333	0	-5	3,374
Percent Difference	3	0	-9	0	3	0	-34	1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1a-4 Mortality of Winter-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	9,120	401,649	47,782	585	101,914	149	6	561,206
ALT3 051722	8,964	382,397	20,712	279	106,313	69	4	518,739
Difference	-156	-19,252	-27,070	-306	4,399	-80	-2	-42,467
Percent Difference ³	-2	-5	-57	-52	4	-54	-40	-8
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	9,023	377,196	454	0	132,085	0	4	518,761
ALT3 051722	9,121	340,558	480	0	138,378	0	1	488,538
Difference	98	-36,638	26	0	6,293	0	-3	-30,223
Percent Difference	1	-10	6	0	5	0	-73	-6
Above Normal (14.6%)								
NOACTION 051422	10,200	300,781	370,997	4,683	104,907	1,195	3	792,764
ALT3 051722	9,900	355,945	154,291	2,234	103,504	554	14	626,443
Difference	-300	55,164	-216,705	-2,448	-1,403	-641	11	-166,322
Percent Difference	-3	18	-58	-52	-1	-54	444	-21
Below Normal (17.1%)								
NOACTION 051422	7,929	383,693	1,423	0	88,278	0	1	481,322
ALT3 051722	7,500	364,684	1,866	0	95,332	0	4	469,386
Difference	-429	-19,008	443	0	7,054	0	4	-11,936
Percent Difference	-5	-5	31	0	8	0	771	-2
Dry (22%)								
NOACTION 051422	9,168	473,699	1,334	0	87,013	0	11	571,226
ALT3 051722	8,833	430,375	1,196	0	87,815	0	3	528,223
Difference	-335	-43,325	-138	0	802	0	-8	-43,004
Percent Difference	-4	-9	-10	0	1	0	-73	-8
Critical (14.6%)								
NOACTION 051422	9,751	451,558	4,739	0	72,310	0	14	538,371
ALT3 051722	9,750	443,786	4,496	0	79,740	0	2	537,773
Difference	-1	-7,772	-243	0	7,430	0	-12	-598
Percent Difference	0	-2	-5	0	10	0	-86	0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1b-1 Mortality of Spring-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	2,508	4,406	18,248	0	2,686	2	0	27,849
ALT1A 051722	1,258	4,483	19,198	0	2,722	1	0	27,663
Difference	-1,249	77	949	0	37	0	0	-186
Percent Difference ³	-50	2	5	0	1	-9	0	-1
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	327	5,568	2,453	0	2,219	0	0	10,567
ALT1A 051722	328	5,416	2,461	0	2,185	0	0	10,390
Difference	1	-152	8	0	-34	0	0	-178
Percent Difference	0	-3	0	0	-2	0	0	-2
Above Normal (14.6%)								
NOACTION 051422	18,877	1,261	102,250	0	2,362	0	0	124,750
ALT1A 051722	8,952	1,095	110,961	0	2,587	0	0	123,595
Difference	-9,925	-166	8,711	0	225	0	0	-1,155
Percent Difference	-53	-13	9	0	10	0	0	-1
Below Normal (17.1%)								
NOACTION 051422	19	3,508	7,373	0	2,903	0	0	13,803
ALT1A 051722	21	4,081	9,137	0	2,859	0	0	16,098
Difference	2	573	1,764	0	-44	0	0	2,295
Percent Difference	12	16	24	0	-2	0	0	17
Dry (22%)								
NOACTION 051422	18	5,123	6,308	0	3,098	0	0	14,547
ALT1A 051722	27	5,487	4,689	0	3,163	0	0	13,367
Difference	9	365	-1,619	0	65	0	0	-1,181
Percent Difference	52	7	-26	0	2	0	0	-8
Critical (14.6%)								
NOACTION 051422	230	4,478	13,066	0	3,095	11	0	20,880
ALT1A 051722	154	4,246	12,491	0	3,180	10	0	20,081
Difference	-76	-232	-575	0	85	-1	0	-799
Percent Difference	-33	-5	-4	0	3	-9	0	-4

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1b-2 Mortality of Spring-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	2,508	4,406	18,248	0	2,686	2	0	27,849
ALT1B 051722	545	4,244	19,148	0	2,749	1	0	26,688
Difference	-1,963	-161	900	0	63	0	0	-1,161
Percent Difference ³	-78	-4	5	0	2	-8	0	-4
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	327	5,568	2,453	0	2,219	0	0	10,567
ALT1B 051722	126	5,405	2,326	0	2,148	0	0	10,005
Difference	-202	-163	-127	0	-71	0	0	-563
Percent Difference	-62	-3	-5	0	-3	0	0	-5
Above Normal (14.6%)								
NOACTION 051422	18,877	1,261	102,250	0	2,362	0	0	124,750
ALT1B 051722	3,757	1,105	113,591	0	2,482	0	0	120,935
Difference	-15,120	-156	11,341	0	120	0	0	-3,815
Percent Difference	-80	-12	11	0	5	0	0	-3
Below Normal (17.1%)								
NOACTION 051422	19	3,508	7,373	0	2,903	0	0	13,803
ALT1B 051722	22	4,052	8,579	0	3,104	0	0	15,756
Difference	4	544	1,206	0	200	0	0	1,953
Percent Difference	20	15	16	0	7	0	0	14
Dry (22%)								
NOACTION 051422	18	5,123	6,308	0	3,098	0	0	14,547
ALT1B 051722	25	4,407	4,530	0	3,256	0	0	12,217
Difference	7	-716	-1,779	0	158	0	0	-2,330
Percent Difference	40	-14	-28	0	5	0	0	-16
Critical (14.6%)								
NOACTION 051422	230	4,478	13,066	0	3,095	11	0	20,880
ALT1B 051722	168	4,326	11,149	0	3,099	10	0	18,752
Difference	-61	-152	-1,917	0	4	-1	0	-2,128
Percent Difference	-27	-3	-15	0	0	-8	0	-10

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1b-3 Mortality of Spring-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Total	
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		Juvenile Habitat
Long-term								
Full Simulation Period¹								
NOACTION 051422	2,508	4,406	18,248	0	2,686	2	0	27,849
ALT2 051722	1,251	4,527	19,357	0	2,713	2	0	27,849
Difference	-1,257	121	1,109	0	27	0	0	0
Percent Difference ³	-50	3	6	0	1	-1	0	0
Water Year Types²								
Wet (32.9%)								
NOACTION 051422	315	5,362	2,395	0	2,207	0	0	10,279
ALT2 051722	316	5,218	2,412	0	2,227	0	0	10,172
Difference	1	-143	16	0	20	0	0	-107
Percent Difference	0	-3	1	0	1	0	0	-1
Above Normal (12.2%)								
NOACTION 051422	23,579	1,465	127,701	0	2,415	0	0	155,160
ALT2 051722	11,051	1,266	138,087	0	2,555	0	0	152,959
Difference	-12,528	-200	10,386	0	140	0	0	-2,201
Percent Difference	-53	-14	8	0	6	0	0	-1
Below Normal (18.3%)								
NOACTION 051422	26	3,333	6,882	0	2,870	0	0	13,112
ALT2 051722	29	3,850	9,593	0	2,820	0	0	16,291
Difference	2	516	2,712	0	-51	0	0	3,180
Percent Difference	8	15	39	0	-2	0	0	24
Dry (22%)								
NOACTION 051422	18	5,123	6,308	0	3,098	0	0	14,547
ALT2 051722	27	5,569	4,253	0	3,111	0	0	12,959
Difference	9	446	-2,056	0	13	0	0	-1,588
Percent Difference	52	9	-33	0	0	0	0	-11
Critical (14.6%)								
NOACTION 051422	230	4,478	13,066	0	3,095	11	0	20,880
ALT2 051722	184	4,426	13,193	0	3,180	11	0	20,994
Difference	-46	-52	127	0	85	0	0	114
Percent Difference	-20	-1	1	0	3	-1	0	1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1b-4 Mortality of Spring-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	2,508	4,406	18,248	0	2,686	2	0	27,849
ALT3 051722	176	4,219	18,129	0	2,686	2	0	25,212
Difference	-2,332	-187	-119	0	0	0	0	-2,637
Percent Difference ³	-93	-4	-1	0	0	-5	0	-9
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	327	5,568	2,453	0	2,219	0	0	10,567
ALT3 051722	124	4,628	2,401	0	2,204	0	0	9,357
Difference	-203	-940	-52	0	-15	0	0	-1,211
Percent Difference	-62	-17	-2	0	-1	0	0	-11
Above Normal (14.6%)								
NOACTION 051422	18,877	1,261	102,250	0	2,362	0	0	124,750
ALT3 051722	723	763	105,526	0	2,526	0	0	109,538
Difference	-18,154	-498	3,276	0	163	0	0	-15,213
Percent Difference	-96	-39	3	0	7	0	0	-12
Below Normal (17.1%)								
NOACTION 051422	19	3,508	7,373	0	2,903	0	0	13,803
ALT3 051722	22	3,543	8,618	0	2,926	0	0	15,110
Difference	4	35	1,245	0	23	0	0	1,307
Percent Difference	20	1	17	0	1	0	0	9
Dry (22%)								
NOACTION 051422	18	5,123	6,308	0	3,098	0	0	14,547
ALT3 051722	37	5,712	4,541	0	3,101	0	0	13,391
Difference	19	589	-1,768	0	3	0	0	-1,156
Percent Difference	107	12	-28	0	0	0	0	-8
Critical (14.6%)								
NOACTION 051422	230	4,478	13,066	0	3,095	11	0	20,880
ALT3 051722	220	4,759	10,856	0	2,964	10	0	18,809
Difference	-10	281	-2,210	0	-131	-1	0	-2,071
Percent Difference	-4	6	-17	0	-4	-5	0	-10

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1c-1 Mortality of Fall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	497,434	1,651,820	143,906	689	5,465,904	15,797	417,534	8,193,084
ALT1A 051722	389,735	1,589,755	186,726	642	5,495,135	14,770	425,982	8,102,744
Difference	-107,699	-62,066	42,820	-47	29,231	-1,027	8,448	-90,340
Percent Difference ³	-22	-4	30	-7	1	-7	2	-1
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	1,921	4,051,801	21,126	1,271	5,808,613	14,752	114,399	10,013,883
ALT1A 051722	2,043	3,851,525	20,364	1,263	5,876,323	14,666	111,534	9,877,717
Difference	122	-200,276	-762	-8	67,710	-86	-2,865	-136,166
Percent Difference	6	-5	-4	-1	1	-1	-3	-1
Above Normal (14.6%)								
NOACTION 051422	3,939,410	242,496	476,096	99	5,932,379	3,322	209,590	10,803,391
ALT1A 051722	3,077,895	252,747	802,069	93	6,034,781	3,305	194,892	10,365,782
Difference	-861,516	10,251	325,974	-6	102,403	-17	-14,698	-437,609
Percent Difference	-22	4	68	-6	2	0	-7	-4
Below Normal (17.1%)								
NOACTION 051422	613	602,561	188,224	39	5,509,567	3,724	359,991	6,664,719
ALT1A 051722	377	606,425	226,175	44	5,422,670	3,848	379,927	6,639,466
Difference	-236	3,864	37,951	5	-86,897	125	19,936	-25,253
Percent Difference	-38	1	20	12	-2	3	6	0
Dry (22%)								
NOACTION 051422	1,666	539,057	111,750	369	5,107,225	17,010	733,103	6,510,180
ALT1A 051722	603	534,996	92,272	208	5,122,835	13,231	734,886	6,499,030
Difference	-1,063	-4,060	-19,479	-161	15,611	-3,780	1,783	-11,150
Percent Difference	-64	-1	-17	-44	0	-22	0	0
Critical (14.6%)								
NOACTION 051422	26,006	519,581	129,632	1,160	4,821,716	40,726	841,391	6,380,214
ALT1A 051722	27,549	532,782	130,047	1,104	4,862,514	39,603	890,237	6,483,835
Difference	1,543	13,201	414	-56	40,798	-1,123	48,845	103,621
Percent Difference	6	3	0	-5	1	-3	6	2

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1c-2 Mortality of Fall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	497,434	1,651,820	143,906	689	5,465,904	15,797	417,534	8,193,084
ALT1B 051722	262,007	1,611,523	216,317	332	5,492,836	14,378	406,415	8,003,809
Difference	-235,427	-40,298	72,412	-357	26,932	-1,419	-11,119	-189,276
Percent Difference ³	-47	-2	50	-52	0	-9	-3	-2
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	1,921	4,051,801	21,126	1,271	5,808,613	14,752	114,399	10,013,883
ALT1B 051722	1,252	3,913,715	21,887	259	5,825,243	9,214	121,883	9,893,452
Difference	-669	-138,086	762	-1,012	16,630	-5,538	7,483	-120,431
Percent Difference	-35	-3	4	-80	0	-38	7	-1
Above Normal (14.6%)								
NOACTION 051422	3,939,410	242,496	476,096	99	5,932,379	3,322	209,590	10,803,391
ALT1B 051722	2,068,804	261,161	1,076,438	127	6,035,919	4,779	191,121	9,638,349
Difference	-1,870,606	18,666	600,342	28	103,540	1,457	-18,469	-1,165,042
Percent Difference	-47	8	126	28	2	44	-9	-11
Below Normal (17.1%)								
NOACTION 051422	613	602,561	188,224	39	5,509,567	3,724	359,991	6,664,719
ALT1B 051722	377	608,305	211,766	58	5,438,074	4,056	351,515	6,614,151
Difference	-236	5,743	23,542	19	-71,493	333	-8,476	-50,568
Percent Difference	-38	1	13	50	-1	9	-2	-1
Dry (22%)								
NOACTION 051422	1,666	539,057	111,750	369	5,107,225	17,010	733,103	6,510,180
ALT1B 051722	251	535,314	91,563	186	5,154,985	13,001	704,044	6,499,344
Difference	-1,415	-3,743	-20,187	-183	47,760	-4,010	-29,059	-10,836
Percent Difference	-85	-1	-18	-49	1	-24	-4	0
Critical (14.6%)								
NOACTION 051422	26,006	519,581	129,632	1,160	4,821,716	40,726	841,391	6,380,214
ALT1B 051722	19,180	533,476	113,256	1,200	4,890,719	47,677	819,920	6,425,427
Difference	-6,826	13,894	-16,376	40	69,002	6,950	-21,471	45,214
Percent Difference	-26	3	-13	3	1	17	-3	1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1c-3 Mortality of Fall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Total	
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		Juvenile Habitat
Long-term								
Full Simulation Period¹								
NOACTION 051422	497,434	1,651,820	143,906	689	5,465,904	15,797	417,534	8,193,084
ALT2 051722	386,659	1,590,137	191,716	656	5,461,528	15,909	421,222	8,067,826
Difference	-110,775	-61,683	47,810	-33	-4,376	112	3,688	-125,258
Percent Difference ³	-22	-4	33	-5	0	1	1	-2
Water Year Types²								
Wet (32.9%)								
NOACTION 051422	1,850	3,916,421	20,348	1,224	5,783,118	14,205	112,146	9,849,312
ALT2 051722	1,967	3,724,595	19,931	1,236	5,808,467	14,025	111,017	9,681,238
Difference	117	-191,826	-416	12	25,348	-180	-1,129	-168,074
Percent Difference	6	-5	-2	1	0	-1	-1	-2
Above Normal (12.2%)								
NOACTION 051422	4,924,263	185,048	595,073	124	5,941,447	4,152	235,806	11,885,913
ALT2 051722	3,818,953	197,791	1,033,156	124	5,943,916	4,137	225,898	11,223,976
Difference	-1,105,309	12,744	438,083	0	2,469	-15	-9,908	-661,937
Percent Difference	-22	7	74	0	0	0	-4	-6
Below Normal (18.3%)								
NOACTION 051422	572	598,927	175,692	36	5,587,059	3,475	346,384	6,712,147
ALT2 051722	719	603,569	233,756	48	5,540,102	3,563	363,801	6,745,557
Difference	147	4,642	58,064	12	-46,958	87	17,416	33,410
Percent Difference	26	1	33	32	-1	3	5	0
Dry (22%)								
NOACTION 051422	1,666	539,057	111,750	369	5,107,225	17,010	733,103	6,510,180
ALT2 051722	603	535,866	79,883	185	5,113,056	13,055	735,712	6,478,360
Difference	-1,063	-3,191	-31,868	-184	5,832	-3,956	2,609	-31,820
Percent Difference	-64	-1	-29	-50	0	-23	0	0
Critical (14.6%)								
NOACTION 051422	26,006	519,581	129,632	1,160	4,821,716	40,726	841,391	6,380,214
ALT2 051722	25,527	530,454	132,469	1,172	4,783,814	47,712	849,439	6,370,587
Difference	-478	10,872	2,837	12	-37,902	6,986	8,047	-9,626
Percent Difference	-2	2	2	1	-1	17	1	0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1c-4 Mortality of Fall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	497,434	1,651,820	143,906	689	5,465,904	15,797	417,534	8,193,084
ALT3 051722	93,833	1,654,323	238,638	274	5,461,567	13,988	408,216	7,870,839
Difference	-403,601	2,502	94,733	-415	-4,336	-1,810	-9,318	-322,245
Percent Difference ³	-81	0	66	-60	0	-11	-2	-4
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	1,921	4,051,801	21,126	1,271	5,808,613	14,752	114,399	10,013,883
ALT3 051722	1,252	4,021,688	26,560	280	5,806,905	9,211	115,002	9,980,897
Difference	-669	-30,113	5,434	-991	-1,708	-5,541	603	-32,986
Percent Difference	-35	-1	26	-78	0	-38	1	0
Above Normal (14.6%)								
NOACTION 051422	3,939,410	242,496	476,096	99	5,932,379	3,322	209,590	10,803,391
ALT3 051722	723,700	275,724	1,259,588	115	6,042,798	4,887	212,434	8,519,246
Difference	-3,215,711	33,228	783,493	16	110,419	1,566	2,844	-2,284,145
Percent Difference	-82	14	165	16	2	47	1	-21
Below Normal (17.1%)								
NOACTION 051422	613	602,561	188,224	39	5,509,567	3,724	359,991	6,664,719
ALT3 051722	377	628,037	209,316	98	5,307,294	4,884	392,160	6,542,165
Difference	-236	25,475	21,092	59	-202,273	1,160	32,168	-122,554
Percent Difference	-38	4	11	150	-4	31	9	-2
Dry (22%)								
NOACTION 051422	1,666	539,057	111,750	369	5,107,225	17,010	733,103	6,510,180
ALT3 051722	1,670	550,209	86,978	230	5,120,782	13,714	700,448	6,474,031
Difference	4	11,152	-24,772	-139	13,558	-3,296	-32,655	-36,149
Percent Difference	0	2	-22	-38	0	-19	-4	-1
Critical (14.6%)								
NOACTION 051422	26,006	519,581	129,632	1,160	4,821,716	40,726	841,391	6,380,214
ALT3 051722	16,813	527,368	109,050	665	4,920,140	42,953	787,049	6,404,039
Difference	-9,193	7,787	-20,582	-495	98,423	2,227	-54,342	23,825
Percent Difference	-35	1	-16	-43	2	5	-6	0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1d-1 Mortality of LateFall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	0	544,474	54,398	223	1,860,533	7,208	14,439	2,481,275
ALT1A 051722	0	495,938	55,427	174	1,871,383	5,765	14,746	2,443,433
Difference	0	-48,536	1,029	-49	10,851	-1,443	307	-37,841
Percent Difference ³	0	-9	2	-22	1	-20	2	-2
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	0	1,371,512	39,694	196	1,532,623	8	6,715	2,950,748
ALT1A 051722	0	1,216,151	40,066	211	1,556,055	16	6,040	2,818,539
Difference	0	-155,362	372	14	23,432	9	-675	-132,209
Percent Difference	0	-11	1	7	2	116	-10	-4
Above Normal (14.6%)								
NOACTION 051422	0	630,715	37,375	53	1,735,050	8	1,884	2,405,084
ALT1A 051722	0	649,298	38,251	68	1,755,411	8	2,630	2,445,667
Difference	0	18,583	876	16	20,362	0	746	40,583
Percent Difference	0	3	2	30	1	0	40	2
Below Normal (17.1%)								
NOACTION 051422	0	42,536	50,331	123	2,054,343	2	10,142	2,157,476
ALT1A 051722	0	41,973	50,776	116	2,065,948	0	12,100	2,170,912
Difference	0	-562	445	-8	11,605	-2	1,957	13,435
Percent Difference	0	-1	1	-6	1	-100	19	1
Dry (22%)								
NOACTION 051422	0	33,139	78,665	155	2,161,854	675	14,644	2,289,131
ALT1A 051722	0	31,663	81,497	107	2,150,193	786	16,382	2,280,626
Difference	0	-1,476	2,832	-48	-11,661	111	1,738	-8,505
Percent Difference	0	-4	4	-31	-1	17	12	0
Critical (14.6%)								
NOACTION 051422	0	33,285	68,787	644	1,997,481	47,015	46,343	2,193,555
ALT1A 051722	0	33,714	69,345	355	2,006,032	37,211	44,339	2,190,996
Difference	0	429	558	-289	8,552	-9,805	-2,003	-2,558
Percent Difference	0	1	1	-45	0	-21	-4	0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1d-2 Mortality of LateFall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	0	544,474	54,398	223	1,860,533	7,208	14,439	2,481,275
ALT1B 051722	0	501,787	55,792	207	1,854,857	4,245	17,561	2,434,450
Difference	0	-42,686	1,394	-16	-5,676	-2,963	3,122	-46,825
Percent Difference ³	0	-8	3	-7	0	-41	22	-2
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	0	1,371,512	39,694	196	1,532,623	8	6,715	2,950,748
ALT1B 051722	0	1,224,823	29,460	85	1,549,680	19	5,921	2,809,988
Difference	0	-146,689	-10,234	-111	17,057	11	-793	-140,760
Percent Difference	0	-11	-26	-57	1	147	-12	-5
Above Normal (14.6%)								
NOACTION 051422	0	630,715	37,375	53	1,735,050	8	1,884	2,405,084
ALT1B 051722	0	673,359	38,056	78	1,689,414	29	3,327	2,404,263
Difference	0	42,644	681	26	-45,636	21	1,443	-821
Percent Difference	0	7	2	49	-3	248	77	0
Below Normal (17.1%)								
NOACTION 051422	0	42,536	50,331	123	2,054,343	2	10,142	2,157,476
ALT1B 051722	0	42,084	56,064	120	2,046,223	0	15,607	2,160,098
Difference	0	-451	5,734	-3	-8,120	-2	5,464	2,622
Percent Difference	0	-1	11	-2	0	-100	54	0
Dry (22%)								
NOACTION 051422	0	33,139	78,665	155	2,161,854	675	14,644	2,289,131
ALT1B 051722	0	31,878	89,001	96	2,155,157	627	26,532	2,303,291
Difference	0	-1,261	10,336	-59	-6,697	-47	11,888	14,160
Percent Difference	0	-4	13	-38	0	-7	81	1
Critical (14.6%)								
NOACTION 051422	0	33,285	68,787	644	1,997,481	47,015	46,343	2,193,555
ALT1B 051722	0	33,418	77,496	846	1,980,233	27,296	43,463	2,162,752
Difference	0	133	8,709	202	-17,247	-19,720	-2,879	-30,803
Percent Difference	0	0	13	31	-1	-42	-6	-1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1d-3 Mortality of LateFall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	0	544,474	54,398	223	1,860,533	7,208	14,439	2,481,275
ALT2 051722	0	495,877	55,480	233	1,866,048	5,582	15,041	2,438,261
Difference	0	-48,597	1,082	10	5,515	-1,626	602	-43,014
Percent Difference ³	0	-9	2	4	0	-23	4	-2
Water Year Types²								
Wet (32.9%)								
NOACTION 051422	0	1,321,658	38,401	189	1,555,997	7	6,533	2,922,786
ALT2 051722	0	1,172,037	38,823	203	1,568,338	16	7,116	2,786,532
Difference	0	-149,621	422	14	12,341	9	583	-136,253
Percent Difference	0	-11	1	7	1	116	9	-5
Above Normal (12.2%)								
NOACTION 051422	0	778,818	44,954	66	1,638,187	11	1,935	2,463,970
ALT2 051722	0	802,188	46,059	85	1,626,096	11	2,790	2,477,228
Difference	0	23,370	1,105	20	-12,092	0	855	13,258
Percent Difference	0	3	2	30	-1	0	44	1
Below Normal (18.3%)								
NOACTION 051422	0	43,110	47,597	115	2,056,138	2	9,571	2,156,532
ALT2 051722	0	42,378	48,215	106	2,054,393	2	11,731	2,156,825
Difference	0	-732	619	-9	-1,745	0	2,161	293
Percent Difference	0	-2	1	-8	0	0	23	0
Dry (22%)								
NOACTION 051422	0	33,139	78,665	155	2,161,854	675	14,644	2,289,131
ALT2 051722	0	31,770	81,254	87	2,145,877	809	16,526	2,276,323
Difference	0	-1,369	2,589	-68	-15,977	135	1,882	-12,809
Percent Difference	0	-4	3	-44	-1	20	13	-1
Critical (14.6%)								
NOACTION 051422	0	33,285	68,787	644	1,997,481	47,015	46,343	2,193,555
ALT2 051722	0	33,343	69,660	777	2,040,690	35,954	42,949	2,223,374
Difference	0	58	873	134	43,210	-11,061	-3,394	29,819
Percent Difference	0	0	1	21	2	-24	-7	1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 1d-4 Mortality of LateFall-Run Chinook Salmon by Life-stage and Source
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Mortality								
Analysis Period	Pre-Spawn Mortality	Eggs Flow	Annual Mortality ⁴ (# of Fish/year)				Juvenile Habitat	Total
			Eggs - Temperature	Fry - Temperature	Fry - Habitat	Juvenile Temperature		
Long-term								
Full Simulation Period¹								
NOACTION 051422	0	544,474	54,398	223	1,860,533	7,208	14,439	2,481,275
ALT3 051722	0	506,870	55,587	121	1,826,658	2,717	20,809	2,412,760
Difference	0	-37,604	1,189	-103	-33,875	-4,491	6,370	-68,514
Percent Difference ³	0	-7	2	-46	-2	-62	44	-3
Water Year Types²								
Wet (31.7%)								
NOACTION 051422	0	1,371,512	39,694	196	1,532,623	8	6,715	2,950,748
ALT3 051722	0	1,238,007	30,872	80	1,554,237	20	4,639	2,827,855
Difference	0	-133,506	-8,822	-116	21,615	12	-2,076	-122,893
Percent Difference	0	-10	-22	-59	1	160	-31	-4
Above Normal (14.6%)								
NOACTION 051422	0	630,715	37,375	53	1,735,050	8	1,884	2,405,084
ALT3 051722	0	677,610	37,184	73	1,642,988	30	7,587	2,365,473
Difference	0	46,895	-190	21	-92,062	22	5,703	-39,611
Percent Difference	0	7	-1	39	-5	257	303	-2
Below Normal (17.1%)								
NOACTION 051422	0	42,536	50,331	123	2,054,343	2	10,142	2,157,476
ALT3 051722	0	44,100	63,215	147	2,014,947	3	15,842	2,138,254
Difference	0	1,564	12,884	24	-39,395	2	5,700	-19,222
Percent Difference	0	4	26	19	-2	88	56	-1
Dry (22%)								
NOACTION 051422	0	33,139	78,665	155	2,161,854	675	14,644	2,289,131
ALT3 051722	0	31,490	84,225	114	2,081,608	590	28,841	2,226,868
Difference	0	-1,649	5,560	-41	-80,246	-84	14,197	-62,263
Percent Difference	0	-5	7	-26	-4	-12	97	-3
Critical (14.6%)								
NOACTION 051422	0	33,285	68,787	644	1,997,481	47,015	46,343	2,193,555
ALT3 051722	0	33,423	72,614	228	1,967,863	17,157	60,608	2,151,891
Difference	0	137	3,826	-416	-29,618	-29,859	14,266	-41,663
Percent Difference	0	0	6	-65	-1	-64	31	-2

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

⁴ Mortality values do not include base mortality

**Table 2a-1 Annual Potential Production for Winter-Run Chinook Salmon,
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	1,924,118
ALT1A 051722	1,928,154
Difference	4,036
Percent Difference ³	0.2
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	1,916,299
ALT1A 051722	1,920,957
Difference	4,658
Percent Difference	0.2
Above Normal (14.6%)	
NOACTION 051422	1,796,579
ALT1A 051722	1,811,282
Difference	14,703
Percent Difference	0.8
Below Normal (17.1%)	
NOACTION 051422	1,969,819
ALT1A 051722	1,964,382
Difference	-5,437
Percent Difference	-0.3
Dry (22%)	
NOACTION 051422	1,927,433
ALT1A 051722	1,935,654
Difference	8,221
Percent Difference	0.4
Critical (14.6%)	
NOACTION 051422	1,989,049
ALT1A 051722	1,987,626
Difference	-1,424
Percent Difference	-0.1
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2a-2 Annual Potential Production for Winter-Run Chinook Salmon,
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	1,924,118
ALT1B 051722	1,931,855
Difference	7,737
Percent Difference ³	0.4
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	1,916,299
ALT1B 051722	1,928,114
Difference	11,815
Percent Difference	0.6
Above Normal (14.6%)	
NOACTION 051422	1,796,579
ALT1B 051722	1,822,054
Difference	25,475
Percent Difference	1.4
Below Normal (17.1%)	
NOACTION 051422	1,969,819
ALT1B 051722	1,964,509
Difference	-5,310
Percent Difference	-0.3
Dry (22%)	
NOACTION 051422	1,927,433
ALT1B 051722	1,938,852
Difference	11,419
Percent Difference	0.6
Critical (14.6%)	
NOACTION 051422	1,989,049
ALT1B 051722	1,982,871
Difference	-6,179
Percent Difference	-0.3
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2a-3 Annual Potential Production for Winter-Run Chinook Salmon,
NOACTION 041222 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 041222	1,924,118
ALT2 051722	1,927,532
Difference	3,414
Percent Difference ³	0.2
Water Year Types²	
Wet (32.9%)	
NOACTION 041222	1,920,944
ALT2 051722	1,925,910
Difference	4,965
Percent Difference	0.3
Above Normal (12.2%)	
NOACTION 041222	1,730,693
ALT2 051722	1,747,690
Difference	16,997
Percent Difference	1.0
Below Normal (18.3%)	
NOACTION 041222	1,977,067
ALT2 051722	1,971,991
Difference	-5,075
Percent Difference	-0.3
Dry (22%)	
NOACTION 041222	1,927,433
ALT2 051722	1,935,650
Difference	8,217
Percent Difference	0.4
Critical (14.6%)	
NOACTION 041222	1,989,049
ALT2 051722	1,983,324
Difference	-5,726
Percent Difference	-0.3

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2a-4 Annual Potential Production for Winter-Run Chinook Salmon,
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	1,924,118
ALT3 051722	1,948,791
Difference	24,673
Percent Difference ³	1.3
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	1,916,299
ALT3 051722	1,940,462
Difference	24,163
Percent Difference	1.3
Above Normal (14.6%)	
NOACTION 051422	1,796,579
ALT3 051722	1,887,934
Difference	91,356
Percent Difference	5.1
Below Normal (17.1%)	
NOACTION 051422	1,969,819
ALT3 051722	1,974,507
Difference	4,687
Percent Difference	0.2
Dry (22%)	
NOACTION 051422	1,927,433
ALT3 051722	1,949,610
Difference	22,177
Percent Difference	1.2
Critical (14.6%)	
NOACTION 051422	1,989,049
ALT3 051722	1,986,321
Difference	-2,728
Percent Difference	-0.1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2b-1 Annual Potential Production for Spring-Run Chinook Salmon,
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	447,691
ALT1A 051722	447,484
Difference	-207
Percent Difference ³	0.0
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	446,752
ALT1A 051722	446,886
Difference	134
Percent Difference	0.0
Above Normal (14.6%)	
NOACTION 051422	408,772
ALT1A 051722	408,592
Difference	-180
Percent Difference	0.0
Below Normal (17.1%)	
NOACTION 051422	451,037
ALT1A 051722	449,946
Difference	-1,091
Percent Difference	-0.2
Dry (22%)	
NOACTION 051422	458,353
ALT1A 051722	458,107
Difference	-245
Percent Difference	-0.1
Critical (14.6%)	
NOACTION 051422	462,262
ALT1A 051722	462,383
Difference	120
Percent Difference	0.0
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2b-2 Annual Potential Production for Spring-Run Chinook Salmon,
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	447,691
ALT1B 051722	447,779
Difference	88
Percent Difference ³	0.0
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	446,752
ALT1B 051722	446,766
Difference	13
Percent Difference	0.0
Above Normal (14.6%)	
NOACTION 051422	408,772
ALT1B 051722	409,165
Difference	392
Percent Difference	0.1
Below Normal (17.1%)	
NOACTION 051422	451,037
ALT1B 051722	449,815
Difference	-1,222
Percent Difference	-0.3
Dry (22%)	
NOACTION 051422	458,353
ALT1B 051722	458,636
Difference	283
Percent Difference	0.1
Critical (14.6%)	
NOACTION 051422	462,262
ALT1B 051722	463,490
Difference	1,228
Percent Difference	0.3
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2b-3 Annual Potential Production for Spring-Run Chinook Salmon,
NOACTION 041222 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 041222	447,691
ALT2 051722	447,445
Difference	-246
Percent Difference ³	-0.1
Water Year Types²	
Wet (32.9%)	
NOACTION 041222	446,788
ALT2 051722	446,823
Difference	35
Percent Difference	0.0
Above Normal (12.2%)	
NOACTION 041222	398,361
ALT2 051722	398,279
Difference	-82
Percent Difference	0.0
Below Normal (18.3%)	
NOACTION 041222	451,177
ALT2 051722	449,810
Difference	-1,367
Percent Difference	-0.3
Dry (22%)	
NOACTION 041222	458,353
ALT2 051722	458,299
Difference	-53
Percent Difference	0.0
Critical (14.6%)	
NOACTION 041222	462,262
ALT2 051722	462,387
Difference	124
Percent Difference	0.0

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2b-4 Annual Potential Production for Spring-Run Chinook Salmon,
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	447,691
ALT3 051722	447,648
Difference	-44
Percent Difference ³	0.0
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	446,752
ALT3 051722	446,614
Difference	-138
Percent Difference	0.0
Above Normal (14.6%)	
NOACTION 051422	408,772
ALT3 051722	412,041
Difference	3,269
Percent Difference	0.8
Below Normal (17.1%)	
NOACTION 051422	451,037
ALT3 051722	450,037
Difference	-1,000
Percent Difference	-0.2
Dry (22%)	
NOACTION 051422	458,353
ALT3 051722	457,047
Difference	-1,305
Percent Difference	-0.3
Critical (14.6%)	
NOACTION 051422	462,262
ALT3 051722	462,672
Difference	409
Percent Difference	0.1
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2c-1 Annual Potential Production for Fall-Run Chinook Salmon,
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	18,263,699
ALT1A 051722	18,296,526
Difference	32,827
Percent Difference ³	0.2
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	16,995,508
ALT1A 051722	17,061,456
Difference	65,947
Percent Difference	0.4
Above Normal (14.6%)	
NOACTION 051422	17,568,483
ALT1A 051722	17,690,159
Difference	121,677
Percent Difference	0.7
Below Normal (17.1%)	
NOACTION 051422	18,951,450
ALT1A 051722	18,969,950
Difference	18,500
Percent Difference	0.1
Dry (22%)	
NOACTION 051422	19,163,296
ALT1A 051722	19,164,681
Difference	1,385
Percent Difference	0.0
Critical (14.6%)	
NOACTION 051422	19,439,022
ALT1A 051722	19,389,925
Difference	-49,096
Percent Difference	-0.3

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2c-2 Annual Potential Production for Fall-Run Chinook Salmon,
NOACTION 051422 vs. ALT1B 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	18,263,699
ALT1B 051722	18,335,056
Difference	71,357
Percent Difference ³	0.4
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	16,995,508
ALT1B 051722	17,059,218
Difference	63,709
Percent Difference	0.4
Above Normal (14.6%)	
NOACTION 051422	17,568,483
ALT1B 051722	17,935,121
Difference	366,639
Percent Difference	2.1
Below Normal (17.1%)	
NOACTION 051422	18,951,450
ALT1B 051722	18,984,525
Difference	33,075
Percent Difference	0.2
Dry (22%)	
NOACTION 051422	19,163,296
ALT1B 051722	19,168,045
Difference	4,749
Percent Difference	0.0
Critical (14.6%)	
NOACTION 051422	19,439,022
ALT1B 051722	19,425,453
Difference	-13,569
Percent Difference	-0.1
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2c-3 Annual Potential Production for Fall-Run Chinook Salmon,
NOACTION 041222 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 041222	18,263,699
ALT2 051722	18,319,356
Difference	55,657
Percent Difference ³	0.3
Water Year Types²	
Wet (32.9%)	
NOACTION 041222	17,076,953
ALT2 051722	17,165,801
Difference	88,848
Percent Difference	0.5
Above Normal (12.2%)	
NOACTION 041222	17,214,893
ALT2 051722	17,441,315
Difference	226,422
Percent Difference	1.3
Below Normal (18.3%)	
NOACTION 041222	18,939,431
ALT2 051722	18,927,855
Difference	-11,576
Percent Difference	-0.1
Dry (22%)	
NOACTION 041222	19,163,296
ALT2 051722	19,177,678
Difference	14,383
Percent Difference	0.1
Critical (14.6%)	
NOACTION 041222	19,439,022
ALT2 051722	19,452,110
Difference	13,089
Percent Difference	0.1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2c-4 Annual Potential Production for Fall-Run Chinook Salmon,
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	18,263,699
ALT3 051722	18,375,634
Difference	111,935
Percent Difference ³	0.6
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	16,995,508
ALT3 051722	17,010,986
Difference	15,478
Percent Difference	0.1
Above Normal (14.6%)	
NOACTION 051422	17,568,483
ALT3 051722	18,307,810
Difference	739,327
Percent Difference	4.2
Below Normal (17.1%)	
NOACTION 051422	18,951,450
ALT3 051722	19,019,147
Difference	67,697
Percent Difference	0.4
Dry (22%)	
NOACTION 051422	19,163,296
ALT3 051722	19,188,603
Difference	25,307
Percent Difference	0.1
Critical (14.6%)	
NOACTION 051422	19,439,022
ALT3 051722	19,418,675
Difference	-20,347
Percent Difference	-0.1

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2d-1 Annual Potential Production for LateFall-Run Chinook Salmon,
NOACTION 051422 vs. ALT1A 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	2,882,503
ALT1A 051722	2,892,842
Difference	10,340
Percent Difference ³	0.4
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	2,712,099
ALT1A 051722	2,751,456
Difference	39,357
Percent Difference	1.5
Above Normal (14.6%)	
NOACTION 051422	2,908,738
ALT1A 051722	2,889,201
Difference	-19,537
Percent Difference	-0.7
Below Normal (17.1%)	
NOACTION 051422	2,961,976
ALT1A 051722	2,952,556
Difference	-9,420
Percent Difference	-0.3
Dry (22%)	
NOACTION 051422	2,962,271
ALT1A 051722	2,971,241
Difference	8,971
Percent Difference	0.3
Critical (14.6%)	
NOACTION 051422	3,017,477
ALT1A 051722	3,014,950
Difference	-2,527
Percent Difference	-0.1
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	

**Table 2d-3 Annual Potential Production for LateFall-Run Chinook Salmon,
NOACTION 041222 vs. ALT2 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 041222	2,882,503
ALT2 051722	2,895,899
Difference	13,396
Percent Difference ³	0.5
Water Year Types²	
Wet (32.9%)	
NOACTION 041222	2,715,611
ALT2 051722	2,758,232
Difference	42,621
Percent Difference	1.6
Above Normal (12.2%)	
NOACTION 041222	2,913,971
ALT2 051722	2,911,041
Difference	-2,930
Percent Difference	-0.1
Below Normal (18.3%)	
NOACTION 041222	2,962,424
ALT2 051722	2,960,500
Difference	-1,924
Percent Difference	-0.1
Dry (22%)	
NOACTION 041222	2,962,271
ALT2 051722	2,974,665
Difference	12,394
Percent Difference	0.4
Critical (14.6%)	
NOACTION 041222	3,017,477
ALT2 051722	2,996,655
Difference	-20,821
Percent Difference	-0.7

¹ Based on the 80-year simulation period

² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.

³ Relative difference of the annual average

**Table 2d-4 Annual Potential Production for LateFall-Run Chinook Salmon,
NOACTION 051422 vs. ALT3 051722**

Long-term Average and Average by Water Year Type Annual Production	
Analysis Period	Annual Potential Production (# of Fish/year)
Long-term	
Full Simulation Period¹	
NOACTION 051422	2,882,503
ALT3 051722	2,916,949
Difference	34,447
Percent Difference ³	1.2
Water Year Types²	
Wet (31.7%)	
NOACTION 051422	2,712,099
ALT3 051722	2,753,785
Difference	41,686
Percent Difference	1.5
Above Normal (14.6%)	
NOACTION 051422	2,908,738
ALT3 051722	2,953,077
Difference	44,339
Percent Difference	1.5
Below Normal (17.1%)	
NOACTION 051422	2,961,976
ALT3 051722	2,979,538
Difference	17,561
Percent Difference	0.6
Dry (22%)	
NOACTION 051422	2,962,271
ALT3 051722	3,004,408
Difference	42,137
Percent Difference	1.4
Critical (14.6%)	
NOACTION 051422	3,017,477
ALT3 051722	3,036,159
Difference	18,682
Percent Difference	0.6
¹ Based on the 80-year simulation period	
² As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999). Water years may not correspond to the biological years in SALMOD.	
³ Relative difference of the annual average	