

El Dorado Irrigation District
El Dorado Hydroelectric Project (FERC #184) - Year 2003 Operating Plan Highlights

1. Reservoir Storage Guidelines - As of May 1, 2003, the California Department of Water Resources' forecast for Unimpaired American River Inflow to Folsom Reservoir for the period April - July 2003 is 1,250,000 acre-feet, or 97% of the 50-year average of 1,282,000 acre-feet. Based on DWR's forecast, the water year is characterized as "Below Normal", and the corresponding "Below Normal Median Storage Guidelines" for Echo, Aloha, Caples and Silver Lakes apply to the Year 2003 Operating Plan¹. As a statement of good faith during the transition to new license conditions, the District is also immediately implementing the reservoir storage and instream flow guidelines specified in the El Dorado Relicensing Settlement Agreement (shown in blue highlight), and plans to operate to these targets or those specified by the 1999 EIR, whichever is higher.
2. Minimum Instream Flow Guidelines – Using the same DWR forecast indicator as summarized above under Reservoir Storage Guidelines, the water year is characterized as “Below Normal”. As a statement of good faith during the transition to new license conditions, the District is immediately implementing the instream flow guidelines specified in the El Dorado Relicensing Settlement Agreement. The only exception is with respect to releases immediately below Silver Lake where the provisions of the agreement between Amador County, EID and El Dorado County will continue to prevail until the new license is issued. The Below Normal Water Year conditions will apply for maintaining the minimum flow release schedules below the upper lakes, El Dorado Diversion Dam and diversions from tributary streams of the South Fork American River.
3. The completion date for construction of the Mill Creek to Bull Creek Tunnel is currently expected to occur sometime between June 30th and August 31st. Following tunnel completion, it is then planned to begin watering-up the El Dorado Canal progressively concurrent to filling El Dorado Forebay. In consideration of this range of time when water conveyance capacity and power generation will be restored, the 2003 Operating Plan was prepared accordingly under two scenarios to consider the sensitivity to utilization of water retained in storage. The two scenarios assume initiating the watering-up of the El Dorado Canal beginning July 1st and also September 1st.
4. Primary assumptions in preparing the 2003 Operating include the following:
 - a) El Dorado Forebay will be filled during an approximately 3-week period concurrent with watering-up the El Dorado Canal.
 - b) In addition to consumptive water deliveries, an average flow of about 60 cfs will be maintained for the purpose of startup testing of Akin Powerhouse for the 1st, 2nd, and possibly 3rd weeks following the estimated three weeks of forebay filling.
5. Results of the two scenarios indicate that water retained in storage can be beneficially utilized under either scenario during the balance of 2003 and early 2004, subject to fall runoff conditions not exceeding median historic values.
6. Water diverted by Kirkwood from Caples Lake for snowmaking has been estimated based on previous year's actual diversion and use.
7. The 2003 Operating Plan also accounts for Banked Water Supply for meeting consumptive demands, providing EID the ability to easily identify water not being utilized from El Dorado Forebay and available for diversion at Folsom Lake.

Jsk:2003 Op. Plan Highlights R2 (6-10-03)

¹ Reference: Chapter 3 of the April 30, 1999 Draft Environmental Impact Report for the Acquisition, Permanent Repair, and Operation of the El Dorado Hydroelectric Project and Acquisition of 17,000 Acre-Feet per Year of New Consumptive Water, State Clearing House # 98082005;

El Dorado Irrigation District - Project 184 Operating Plan Under "Below Normal" Water Year Conditions for Year 2003 (Beginning Watering-Up in July)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Echo Lake												
Beginning Storage	0	0	0	0	130	1,030	1,943	1,721	1,451	894	324	0
Natural Inflow	200	300	800	1,160	4,000	4,200	700	100	-100	-100	100	200
w/Flashboards 4/2-11/15												
Draft (to SF American)	0	0	0	0	0	0	0	0	-100	-100	-67	0
Capacity = 1,943 AF	-200	-300	-800	-1,030	-3,700	-3,287	-922	-370	-357	-370	-357	-200
Min Flow / Spill (Up/Truckee)	0	0	0	130	1,030	1,943	1,721	1,451	894	324	0	0
w/o Flashbd's 11/16-4/1												
End of Month Storage	0	0	0	130	1,030	1,943	1,721	1,451	858	284	0	0
Relic/Median Storage Guidelines												
Lake Aloha												
Beginning Storage	0	0	33	500	1,281	3,258	5,045	5,035	1,550	531	158	0
Natural Inflow	100	144	590	900	2,900	2,700	560	100	-100	-100	100	100
2 cfs/Nat. Min. Flow	-123	-111	-123	-119	-123	-833	-370	-185	-119	-123	-100	-100
Min. Flow Release	0	0	0	0	0	0	0	-3,400	-800	-150	-158	0
Draft	0	0	0	0	0	0	0	0	0	0	0	0
No Flashboards												
Spill	0	0	0	0	-800	-80	-200	0	0	0	0	0
Capacity = 5,100 AF	100	111	123	119	923	913	570	3,585	919	273	258	100
Total Mo. Flow blw. Dam (AF)	2	2	2	2	15	15	9	58	15	4	4	2
Avg. Daily Flow (CFS)	0	33	500	1,281	3,258	5,045	5,035	1,550	531	158	0	0
End of Month Storage												
Relic/Med. Storage Guidelines												
Capples Lake												
Beginning Storage	13,827	13,637	13,535	13,992	15,514	19,847	22,338	22,106	19,976	18,013	16,806	16,080
Natural Inflow	370	410	870	1,870	4,700	5,700	1,920	400	-100	100	300	300
5 cfs/Nat. Min. Flow	-307	-278	-307	-298	-307	-2,500	-2,152	-370	-298	-307	-476	-615
Min. Flow Release	-253	-234	-106	-50	-60	0	0	-2,160	-1,565	-1,000	-500	-200
Draft	0	0	0	0	0	0	0	0	0	0	0	0
w/Flashboards 4/2-9/30												
Spill	0	0	0	0	0	-709	0	0	0	0	0	0
Capacity = 22,338 AF	560	512	413	348	367	3,209	2,152	2,530	1,863	1,307	976	815
Total Mo. Flow blw. Dam (AF)	9	9	7	6	6	54	35	41	31	21	16	13
Avg. Daily Flow (CFS)	0	0	0	0	0	0	0	0	0	0	0	-50
Kirkwood Snowmaking												
End of Month Storage	13,637	13,535	13,992	15,514	19,847	22,338	22,106	19,976	18,013	16,806	16,080	15,215
Relic/Med. Storage Guidelines												
Silver Lake												
Beginning Storage	2,112	2,354	2,588	3,895	5,366	7,243	8,640	8,617	7,994	5,615	2,392	1,273
Natural Inflow	1,010	790	1,780	2,660	5,300	5,200	1,600	300	-100	100	300	400
2 cfs/Nat. Min. Flow	-123	-111	-123	-119	-123	-119	-123	-123	-119	-123	-119	-123
Min. Flow Release	-50	-50	-100	-200	-900	-1,000	-1,000	-800	-600	-400	-300	-100
Leakage	-595	-395	0	0	0	0	0	0	-1,560	-2,800	-1,000	-100
Draft	0	0	0	0	0	0	0	0	0	0	0	0
w/Flashboards 4/2-10/31												
Spill	0	0	-250	-870	-2,400	-2,684	-500	0	0	0	0	0
Capacity = 8640 AF	768	556	473	1,189	3,423	3,803	1,623	923	2,279	3,323	1,419	323
Total Mo. Flow blw. Dam (AF)	13	10	8	20	56	64	26	15	38	54	24	5
Avg. Daily Flow (CFS)	2,354	2,588	3,895	5,366	7,243	8,640	8,617	7,994	5,615	2,392	1,273	1,350
End of Month Storage												
Relic/Med. Storage Guidelines												
El Dorado Diversion												
EID/Amador Storage Guidelines												
Natural Inflow	8,400	8,900	11,500	29,400	63,000	41,000	9,400	1,100	700	900	1,900	3,200
Inflow from U/S Reservoirs	1,428	1,179	1,009	1,656	4,713	7,925	4,345	7,038	5,161	5,003	2,720	1,238
Total Inflow	9,828	10,079	12,509	31,056	67,713	48,925	13,745	8,138	5,861	5,903	4,620	4,438
50/38/43or18/10/15 cfs												
Min. Flow Release	-3,074	-2,777	-3,074	-2,975	-3,074	-10,711	-7,686	-3,997	-2,975	-2,460	-2,380	-2,460
Mo. El Dorado Canal Div. (AF)	0	0	0	0	0	0	2,200	4,141	2,886	3,443	2,240	1,978
Avg. Daily El Dor Can Div (CFS)	0	0	0	0	0	0	36	67	49	56	38	32
Spill	6,754	7,302	9,435	28,081	64,639	38,214	3,859	0	0	0	0	0
Avg Daily Flow Blw Div (CFS)	160	182	204	523	1,103	824	188	65	50	40	40	40
Inflow from El Dor Diversion	0	0	0	0	0	0	2,200	4,141	2,886	3,443	2,240	1,978
El Dorado Forebay												
Divisions less Losses	0	0	0	0	0	0	-500	-500	-500	0	300	300
Total Inflow to Forebay	0	0	0	0	0	0	1,700	3,641	2,386	3,443	2,540	2,278
Mo. Water Delivery (AF)	0	0	0	0	0	0	765	1,530	1,190	1,230	830	430
5,975												
Capacity = 40 cfs	0	0	0	0	0	0	12	25	20	20	14	7
Avg. Daily Water Delivery (CFS)	0	0	0	0	0	0	935	2,111	1,196	2,213	1,710	1,848
Mo. Powerhouse Delivery (AF)	0	0	0	0	0	0	15	34	20	36	29	30
Capacity = 175 cfs	0	0	0	0	0	0	15	34	20	36	29	30
Avg. Daily PH Delivery (CFS)	0	0	0	0	0	0	1,695	930	1,190	1,230	800	800
Jul - Dec Banked Water Supply (AF)												

jsk-2003 Op. Plan (6-6-03) - July Watering-Up Note: PH water used in July is primarily for testing. Main Canal deliveries are projected to begin in 3rd week of July

El Dorado Irrigation District - Project 184 Operating Plan Under "Below Normal" Water Year Conditions for Year 2003 (Beginning Watering-Up in Sept.)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Echo Lake	Beginning Storage	0	0	0	0	130	1,030	1,943	1,721	1,451	894	324
11,560	Natural Inflow	200	300	800	1,160	4,000	4,200	700	100	-100	100	200
w/Flashboards 4/2-11/15	Draft to SF American)	0	0	0	0	0	0	0	-100	-100	-67	0
Capacity = 1,943 AF	Min Flow/ Spill (Up'r Truckee)	-200	-300	-800	-1,030	-3,100	-3,287	-922	-370	-357	-370	-200
w/o Flashbds 11/16-4/1	End of Month Storage	0	0	0	130	1,030	1,943	1,721	1,451	894	324	0
Capacity = 0 AF	Rel. Storage Guidelines					1,943	1,943	1,810	858	284		
Lake Aloha	Beginning Storage	0	0	33	500	1,281	3,258	5,045	5,035	3,626	2,598	1,088
7,994	Natural Inflow	100	144	590	900	2,900	2,700	560	100	-100	100	100
2 cfs/Nat. Min. Flow	Min. Flow Release	-123	-111	-123	-119	-833	-370	-370	-185	-119	-123	-100
No Flashboards	Draft	0	0	0	0	0	0	-1,324	-809	-1,287	-1,088	0
Capacity = 5,100 AF	Spill	0	0	0	0	-80	-200	0	0	0	0	0
	Total Mo. Flow blw. Dam (AF)	100	111	123	119	923	913	570	1,509	928	1,410	1,188
	Avg. Daily Flow (CFS)	2	2	2	2	15	9	25	16	23	20	2
	End of Month Storage	0	33	500	1,281	3,258	5,045	5,035	3,626	2,598	1,088	0
	Rel. Storage Guidelines					5,005	3,560	484	93			
Cables Lake	Beginning Storage	13,827	13,637	13,535	13,992	15,514	19,847	22,338	22,106	22,041	20,823	16,916
16,540	Natural Inflow	370	410	870	1,870	4,700	5,700	1,920	400	-100	100	300
5 cfs/Nat. Min. Flow	Min. Flow Release	-307	-278	-307	-298	-307	-2,500	-2,152	-370	-298	-307	-476
w/Flashboards 4/2-9/30	Draft	-253	-234	-106	-50	0	0	0	-820	-3,700	-550	-200
Capacity = 22,338 AF	Spill	0	0	0	0	-709	0	0	-95	0	0	0
	Total Mo. Flow blw. Dam (AF)	560	512	413	348	367	3,209	2,152	465	1,118	4,007	1,026
	Avg. Daily Flow (CFS)	9	9	7	6	6	54	35	8	19	65	17
	Kirkwood Snowmaking	0	0	0	0	0	0	0	0	0	0	13
w/o Flashbds 10/1-4/1	End of Month Storage	13,637	13,635	13,992	15,514	19,847	22,338	22,106	22,041	20,823	16,916	15,275
Capacity = 20,494 AF	Rel. Storage Guidelines					22,338	22,089	18,006	18,006	11,574	8,516	6,401
Silver Lake	Beginning Storage	2,112	2,354	2,588	3,895	5,366	7,243	8,640	8,617	7,994	5,615	2,392
19,340	Natural Inflow	1,010	790	1,780	2,660	5,300	5,200	1,600	300	-100	100	300
2 cfs/Nat. Min. Flow	Min. Flow Release	-123	-111	-123	-119	-123	-119	-123	-123	-119	-123	-119
w/Flashboards 4/2-10/31	Leakage	-50	-50	-100	-200	-900	-1,000	-1,000	-800	-600	-400	-300
Capacity = 8640 AF	Draft	-595	-395	0	0	0	0	0	-1,560	-2,800	-1,000	-100
	Spill	0	0	-250	-870	-2,400	-2,684	-500	0	0	0	0
	Total Mo. Flow blw. Dam (AF)	768	556	473	1,189	3,423	3,803	1,623	923	2,279	3,323	1,419
	Avg. Daily Flow (CFS)	13	10	8	20	56	64	26	15	38	54	24
w/o Flashbds 11/1-4/1	End of Month Storage	2,354	2,588	3,895	5,366	7,243	8,640	8,617	7,994	5,615	2,392	1,350
Capacity = 3756 AF	Rel. Storage Guidelines					8,640	8,617	7,994	3,756	2,111	821	573
El Dorado Diversion	Natural Inflow	8,400	8,900	11,500	29,400	63,000	41,000	9,400	1,100	700	900	1,900
	Inflow from U/S Reservoirs	1,428	1,179	1,009	1,656	4,713	7,925	4,345	2,897	4,425	8,840	3,700
	Total Inflow	9,828	10,079	12,509	31,056	67,713	48,925	13,745	3,997	5,125	9,740	5,600
50/38/43or18/10/15 cfs	Min. Flow Release	-3,074	-2,777	-3,074	-2,975	-3,074	-10,711	-7,686	-3,997	-2,975	-2,460	-2,460
Capacity = 165 cfs	Mo. El Dorado Canal Div. (AF)	0	0	0	0	0	0	0	0	2,150	7,280	3,220
	Avg. Daily El Dor Canl Div (CFS)	6,754	7,302	9,435	28,081	64,639	38,214	6,059	0	0	0	0
	Spill	180	182	204	523	1,103	824	224	50	40	40	40
	Avg Daily Flow Blw Div (CFS)											
El Dorado Forebay	Inflow from El Dor Diversion	0	0	0	0	0	0	0	0	2,150	7,280	3,220
	Trib. Diversion less Losses	0	0	0	0	0	0	0	0	-500	0	300
	Total Inflow to Forebay	0	0	0	0	0	0	0	0	1,650	7,280	3,520
3,255	Mo. Water Delivery (AF)	0	0	0	0	0	0	0	0	765	1,230	830
Capacity = 40 cfs	Avg. Daily Water Delivery (CFS)	0	0	0	0	0	0	0	0	13	20	14
11,473	Mo. Powerhouse Delivery (AF)	0	0	0	0	0	0	0	0	885	6,050	2,690
Capacity = 175 cfs	Avg. Daily PH Delivery (CFS)	0	0	0	0	0	0	0	0	15	99	45
7,800	Jul - Dec Banked Water Supply (AF)						2,455	1,480	1,495	1,230	360	800

jsk-2003 Op. Plan (6-6-03) - Sept. Watering-Up Note: PH water used in Sept is primarily for testing. Main Canal deliveries are projected to begin in 3rd week of Sept.

El Dorado Irrigation District - Project 184 Operating Plan Under "Below Normal" Water Year Conditions for Year 2003

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Echo Lake	Beginning Storage	Storage as of end of previous month										
0	Natural Inflow	Forecast subject to hydrologic conditions										
w/Flashboards 4/2-11/15	Draft (to SF American)	Draft per ability to use water for water supply & power generation										
Capacity = 1,943 AF	Spill (to Upper Truckee)	Spill per hydrologic conditions & reservoir capacity limitations										
w/o Flashbd's 11/16-4/1	End of Month Storage	Beg. Storage plus Inflow less Draft less Spill										
Capacity = 0 AF	Med. Storage Guidelines	Guidelines per EIR Table 3-11										
Lake Aloha	Beginning Storage	Storage as of end of previous month										
0	Natural Inflow	Forecast subject to hydrologic conditions										
2 cfs/Nat. Min. Flow	Min. Flow Release	Minimum Flow Releases in accordance with FERC License										
No Flashboards	Draft	Draft per ability to use water for water supply & power generation										
Capacity = 5,100 AF	Spill	Spill per hydrologic conditions & reservoir capacity limitations										
Avg. Daily Flow (CFS)	Total Mo. Flow blw. Dam (AF)	Sum of Min. Flow Release, Draft & Spill, except during winter when limited to Natural Inflow										
End of Month Storage	Avg. Daily Flow (CFS)	Total Monthly Flow blw Dam divided by (# of days/month x 1.98 AF/cfs)										
Med. Storage Guidelines	Med. Storage Guidelines	Beg. Storage plus Inflow less Total Monthly Flow blw Dam										
Caples Lake	Beginning Storage	Storage as of end of previous month										
0	Natural Inflow	Forecast subject to hydrologic conditions										
5 cfs/Nat. Min. Flow	Min. Flow Release	Minimum Flow Releases in accordance with FERC License										
w/Flashboards 4/2-9/30	Draft	Draft per ability to use water for water supply & power generation										
Capacity = 22,338 AF	Spill	Spill per hydrologic conditions & reservoir capacity limitations										
Avg. Daily Flow (CFS)	Total Mo. Flow blw. Dam (AF)	Sum of Min. Flow Release, Draft & Spill										
Kirkwood Snowmaking	Avg. Daily Flow (CFS)	Total Monthly Flow blw Dam divided by (# of days/month x 1.98 AF/cfs)										
w/o Flashbd's 10/1-4/1	End of Month Storage	Typical historic schedule of water use by Kirkwood for Snowmaking										
Capacity = 20,494 AF	Med. Storage Guidelines	Beg. Storage plus Inflow less Total Monthly Flow blw Dam less Kirkwood Snowmaking										
Silver Lake	Beginning Storage	Storage as of end of previous month										
0	Natural Inflow	Forecast subject to hydrologic conditions										
2 cfs/Nat. Min. Flow	Min. Flow Release	Minimum Flow Releases in accordance with FERC License										
w/Flashboards 4/2-10/31	Leakage	Leakage Flow vs. Reservoir Storage per EIR Page 3-23										
Capacity = 8640 AF	Draft	Draft per ability to use water for water supply & power generation										
w/o Flashbd's 11/1-4/1	Spill	Spill per hydrologic conditions & reservoir capacity limitations										
Capacity = 3756 AF	Total Mo. Flow blw. Dam (AF)	Sum of Min. Flow Release, Leakage, Draft & Spill										
Med. Storage Guidelines	Avg. Daily Flow (CFS)	Total Monthly Flow blw Dam divided by (# of days/month x 1.98 AF/cfs)										
EID/Amador Storage Guidelines	Med. Storage Guidelines	Beginning Storage plus Inflow less Total Monthly Flow below Dam										
El Dorado Diversion	Natural Inflow	Forecast subject to hydrologic conditions										
0	Inflow from U/S Reservoirs	Sum of Echo Draft and Total Monthly Flows below Aloha, Caples & Silver										
50/38/43or18/10/15 cfs	Total Inflow	Sum of Natural Inflow plus Inflow from Upstream Reservoirs										
Capacity = 165 cfs	Min. Flow Release	Minimum Flow Releases in accordance with FERC License										
Avg. Daily El Dor Canl Div (CFS)	Mo. El Dorado Canal Div. (AF)	Canal Diversion selected based on available inflows & canal capacity										
Spill	Avg. Daily El Dor Canl Div (CFS)	Monthly Canal Diversion divided by (# of days/month x 1.98 AF/cfs)										
El Dorado Forebay	Avg Daily Flow Blw Div (CFS)	Total Div. Dam Inflow less Min. Flow Release less Canal Diversion										
Inflow from El Dor Diversion	Inflow from El Dor Diversion	Min. Div. Dam Flow Release & Spill divided by (# of days/month x 1.98 AF/cfs)										
Trib. Diversions less Losses	Trib. Diversions less Losses	Forecast subject to hydrologic conditions, spill and seepage losses										
0	Total Inflow to Forebay	Sum of Inflow from El Dorado Diversion and Tributary Inflow less Losses										
Capacity = 40 cfs	Mo. Water Delivery (AF)	Water Delivery Schedule per EID Staff										
0	Avg. Daily Water Delivery (CFS)	Monthly Water Delivery divided by (# of days/month x 1.98 AF/cfs)										
Capacity = 175 cfs	Mo. Powerhouse Delivery (AF)	Total Inflow to Forebay less Monthly Water Delivery										
Aug - Dec Banked Water Supply (AF)	Avg. Daily PH Delivery (CFS)	Monthly PH Delivery divided by (# of days/month x 1.98 AF/cfs)										
	Sum of draft from Echo, Aloha (up to 360 AF), Silver and Natural Inflow at Div. Dam less Forebay Water Delivery	Banked Water										