

**United States Bureau of Reclamation - Mid Pacific Region, Central Valley Operations Office**  
**Forecast of CVP Generation with Uncertainty Bounds Bracketing a Randomly Distributed Population**  
**Based on USBR 50 Pct Forecast -B2, Dated 11/21/2018**  
**Losses are Estimated per WAPA Contractual Provisions**  
**Uncertainty Bounded Energy Generation (All values in GWh)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Energy at Tracy			
													Expected Proj Use	Exp Est Net CVP	Low Est Net CVP	High Est Net CVP
NOV	9	5	10	91	20	26	4	9	0	0	174	3	100	70	40	90
DEC	10	6	7	86	19	26	4	7	0	0	165	3	160	0	0	30
JAN	6	0	10	75	16	27	4	8	0	0	146	3	130	10	0	50
FEB	6	1	17	64	15	54	5	12	0	0	174	3	120	50	0	90
MAR	8	2	15	79	16	54	7	60	0	0	241	4	65	170	80	230
APR	30	26	15	117	22	49	6	78	38	1	382	6	40	340	190	430
MAY	46	20	21	187	34	84	10	96	56	4	558	9	60	490	320	590
JUN	68	46	41	227	43	73	8	81	30	0	617	11	125	480	360	550
JUL	55	45	41	307	57	72	8	54	35	0	674	12	155	510	370	590
AUG	40	46	41	222	45	69	8	46	18	0	535	9	140	390	280	450
SEP	38	45	41	161	35	40	5	36	0	0	401	7	110	280	210	330
OCT	11	7	18	150	31	29	4	34	0	0	284	5	130	150	70	200
Total	327	249	277	1766	353	603	73	521	177	5	4351	75	1335	2940	1920	3630

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**Forecast of CVP Generation**  
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**Losses are Estimated per WAPA Contractual Provisions**  
**Expected Capacity Based on Estimated Gross Head (All values in MW)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Capacity at Tracy			
													Expected CVP	Schd. Out	Expected Proj Use	Expected Net CVP
NOV	0	150	91	482	19	102	5	0	0	0	850	15	835	555	125	710
DEC	61	154	182	367	9	102	3	185	0	0	1062	19	1045	385	165	880
JAN	61	154	182	508	15	155	3	373	0	0	1451	25	1425	185	105	1320
FEB	62	154	182	406	8	160	0	375	0	0	1347	23	1325	325	135	1190
MAR	63	154	182	284	15	167	5	188	0	0	1058	19	1040	515	90	950
APR	64	150	182	426	32	182	4	187	173	1	1401	23	1380	490	55	1325
MAY	64	147	182	426	46	202	13	188	141	5	1415	24	1390	325	85	1305
JUN	63	147	182	568	62	209	12	376	115	0	1735	29	1705	165	190	1515
JUL	62	147	182	568	82	201	12	374	91	0	1719	29	1690	160	235	1455
AUG	61	147	182	567	62	187	12	367	79	0	1665	28	1635	200	220	1415
SEP	60	147	182	549	50	119	4	361	0	0	1471	26	1445	210	170	1275
OCT	0	150	182	537	28	116	5	357	0	0	1374	24	1350	180	170	1180

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**Forecast of CVP Generation**  
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**Project Use Pumping**

**Expected Project Energy Use at Tracy Load Center (All values in GWh)**

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									Exp CVP PU	Expected On Peak	Expected Off Peak
NOV	49	0	3	8	25	2	6	8	100	40	60
DEC	62	0	3	15	67	2	3	9	160	55	105
JAN	49	0	2	11	54	1	4	10	130	45	90
FEB	48	0	2	9	39	1	7	13	120	45	75
MAR	35	0	2	5	5	1	9	8	65	35	30
APR	11	0	2	0	0	2	11	11	40	20	15
MAY	12	0	2	0	0	3	16	26	60	35	25
JUN	61	0	2	2	0	4	23	33	125	70	55
JUL	63	5	2	1	0	6	31	46	155	85	65
AUG	63	5	2	3	0	6	23	39	140	85	55
SEP	61	5	2	5	9	4	8	17	110	55	55
OCT	62	2	3	9	32	3	3	18	130	60	75
Total	576	16	28	68	232	34	144	238	1335	630	705

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**Forecast of CVP Generation**  
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**Project Use Pumping**

**Expected Project Capacity Use at Tracy Load Center (All values in MW)**

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
NOV	81	81	0	0	4	4	12	12	0	91	2	2	12	12	12
DEC	96	96	0	0	4	4	20	20	22	178	2	2	6	6	12
JAN	66	66	0	0	3	3	16	16	0	166	1	1	6	6	13
FEB	81	81	0	0	3	3	16	16	0	152	1	1	12	12	20
MAR	51	51	0	0	3	3	8	8	0	25	2	2	18	18	10
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	15
MAY	18	18	0	0	3	3	0	0	0	0	4	4	24	24	35
JUN	96	96	0	0	2	2	4	4	0	0	6	6	36	36	45
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	62
AUG	96	96	20	0	3	3	4	4	0	0	8	8	36	36	52
SEP	96	96	20	0	3	3	8	8	0	38	5	5	12	12	23
OCT	96	96	20	0	4	4	16	16	0	111	4	4	6	6	24

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**Losses are Estimated per WAPA Contractual Provisions**  
**Energy Generation (All values in GWh)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Total Losses	Total at Tracy		
												CVP	Proj Use	Net CVP
NOV	9	5	10	91	20	26	4	9	0	0	3	170	100	70
DEC	10	6	7	86	19	26	4	7	0	0	3	160	160	0
JAN	6	0	10	75	16	27	4	8	0	0	3	140	130	10
FEB	6	1	17	64	15	54	5	12	0	0	3	170	120	50
MAR	8	2	15	79	16	54	7	60	0	0	4	240	65	175
APR	30	26	15	117	22	49	6	78	38	1	6	380	40	340
MAY	46	20	21	187	34	84	10	96	56	4	9	550	60	490
JUN	68	46	41	227	43	73	8	81	30	0	11	610	125	485
JUL	55	45	41	307	57	72	8	54	35	0	12	660	155	505
AUG	40	46	41	222	45	69	8	46	18	0	9	520	140	380
SEP	38	45	41	161	35	40	5	36	0	0	7	390	110	280
OCT	11	7	18	150	31	29	4	34	0	0	5	280	130	150
Total	327	250	277	1765	353	605	73	522	177	4	76	4270	1335	2935

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**Capacity Based on Estimated Gross Head (All values in MW)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Tot. Cap. at Plant	Total Losses	Total Capacity at Tracy			
													CVP	Sch. Out	PU	Net CVP
NOV	0	150	91	482	19	102	5	0	0	0	850	15	835	555	125	710
DEC	61	154	182	367	9	102	3	185	0	0	1062	19	1045	385	165	880
JAN	61	154	182	508	15	155	3	373	0	0	1451	25	1425	185	105	1320
FEB	62	154	182	406	8	160	0	375	0	0	1347	23	1325	325	135	1190
MAR	63	154	182	284	15	167	5	188	0	0	1058	19	1040	515	90	950
APR	64	150	182	426	32	182	4	187	173	1	1401	23	1380	490	55	1325
MAY	64	147	182	426	46	202	13	188	141	5	1415	24	1390	325	85	1305
JUN	63	147	182	568	62	209	12	376	115	0	1735	29	1705	165	190	1515
JUL	62	147	182	568	82	201	12	374	91	0	1719	29	1690	160	235	1455
AUG	61	147	182	567	62	187	12	367	79	0	1665	28	1635	200	220	1415
SEP	60	147	182	549	50	119	4	361	0	0	1471	26	1445	210	170	1275
OCT	0	150	182	537	28	116	5	357	0	0	1374	24	1350	180	170	1180

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**Project Use Pumping**  
**Project Energy Use at Tracy Load Center (All values in GWh)**

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									CVP	On Peak	Off Peak
NOV	49	0	3	8	25	2	6	8	100	40	60
DEC	62	0	3	15	67	2	3	9	160	55	105
JAN	49	0	2	11	54	1	4	10	130	45	90
FEB	48	0	2	9	39	1	7	13	120	45	75
MAR	35	0	2	5	5	1	9	8	65	35	30
APR	11	0	2	0	0	2	11	11	40	20	15
MAY	12	0	2	0	0	3	16	26	60	35	25
JUN	61	0	2	2	0	4	23	33	125	70	55
JUL	63	5	2	1	0	6	31	46	155	85	65
AUG	63	5	2	3	0	6	23	39	140	85	55
SEP	61	5	2	5	9	4	8	17	110	55	55
OCT	62	2	3	9	32	3	3	18	130	60	75
Total	576	16	28	68	232	34	144	238	1335	630	705

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**Project Use Pumping**  
**Project Capacity Use at Tracy Load Center (All values in MW)**

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
NOV	81	81	0	0	4	4	12	12	0	91	2	2	12	12	12
DEC	96	96	0	0	4	4	20	20	22	178	2	2	6	6	12
JAN	66	66	0	0	3	3	16	16	0	166	1	1	6	6	13
FEB	81	81	0	0	3	3	16	16	0	152	1	1	12	12	20
MAR	51	51	0	0	3	3	8	8	0	25	2	2	18	18	10
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	15
MAY	18	18	0	0	3	3	0	0	0	0	4	4	24	24	35
JUN	96	96	0	0	2	2	4	4	0	0	6	6	36	36	45
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	62
AUG	96	96	20	0	3	3	4	4	0	0	8	8	36	36	52
SEP	96	96	20	0	3	3	8	8	0	38	5	5	12	12	23
OCT	96	96	20	0	4	4	16	16	0	111	4	4	6	6	24