

Sacramento River Temperature Task Group Meeting

October 24, 2019 | 1:00 pm – 3:00 pm

**Location: Joint Operations Center, 3310 El Camino Ave,
Sacramento, CA**

Conference Line: 877-417-6209

Participant code: 1593030

Agenda

- Introductions
- Meeting Purpose and Overview
- Fishery update
- Hydrology & Operations update (information is available on web-pages)
 - Daily Operation
 - Summary
 - 8-Station Index and Snow Water Content
 - Operations Outlook
 - Mean Daily Water Temperatures
 - Redding 10-Day Forecasted Air Temperatures
 - Sac River Gage temp plot and air temp plot
 - Lake Shasta Isothermobath Plot
 - Lake Shasta Isotherm Statistics Plots
 - Lake Shasta Current TCD Configuration
 - Trinity Lake Isothermobath Plot
 - Whiskeytown Lake Isothermobath Plot
- Temperature Studies
 - End of Temperature management season – no studies this month
 - Cold Water Pool Tracking
- Updates
- Winter hiatus, next update: End of November 2019

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA

DAILY CVP WATER SUPPLY REPORT

OCTOBER 22, 2019

RUN DATE: October 23, 2019

RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2019	WY 2020	15 YR MEDIAN
TRINITY	LEWISTON	304	309	303
SACRAMENTO	KESWICK	7,576	8,561	6,066
FEATHER	OROVILLE (SWP)	2,450	2,450	2,300
AMERICAN	NIMBUS	1,652	2,686	1,540
STANISLAUS	GOODWIN	487	647	647
SAN JOAQUIN	FRIANT	395	395	350

STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESERVOIR	CAPACITY	15 YR AVG	WY 2019	WY 2020	% OF 15 YR AVG
TRINITY	2,448	1,389	1,474	1,983	143
SHASTA	4,552	2,381	2,243	3,325	140
FOLSOM	977	429	421	631	147
NEW MELONES	2,420	1,366	1,769	2,015	147
FED. SAN LUIS	966	342	427	370	108
TOTAL NORTH CVP	11,363	5,907	6,334	8,324	141
MILLERTON	520	250	277	285	114
OROVILLE (SWP)	3,538	1,708	1,243	2,094	123

ACCUMULATED INFLOW FOR WATER YEAR TO DATE IN THOUSANDS OF ACRE-FEET

RESERVOIR	CURRENT WY 2020	WY 1977	WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	4	5	14	8	56
SHASTA	169	169	178	144	118
FOLSOM	49	44	75	43	112
NEW MELONES	29	---	36	31	95
MILLERTON	61	22	95	40	150

ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2020	WY 1977	WY1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	0.56	0.13	1.25	0.97 (57)	58	0.00
SACRAMENTO AT SHASTA DAM	0.25	0.07	1.46	1.56 (62)	16	0.00
AMERICAN AT BLUE CANYON	0.11	0.87	1.04	1.77 (44)	6	0.00
STANISLAUS AT NEW MELONES	0.00	---	0.36	0.73 (41)	0	0.00
SAN JOAQUIN AT HUNTINGTON LK	0.04	1.20	0.10	1.26 (44)	3	0.00

Upper Sacramento River Summary Conditions – October (On-going):

Storage/Release Management Conditions:

- Reservoir Inflow Uncertainty: Meteorological projections: Shorter term forecasts (8-14 day) suggest below chances of precipitation
- Longer term forecasts (one-month outlook) suggest below normal precipitation
- Current release from Keswick Dam: Pulsing to (8,500 – 6,500 cfs) to provide water for downstream demands and discourage fall run spawning at higher flows
- USFWS BiOp RPA Action 4 – Fall X2
- Fall Sacramento River release reduction coordination is on-going: Balancing tradeoffs between winter-run, fall-run, in-stream demands, and storage conservation

Temperature Management:

- Temperature management: Active management
- Selective withdrawal: 5 PRG TCD gates, expect this configuration to remain until winter ambient conditions and amenable storage elevations allow for the opportunity to conserve cold water. If above normal warming conditions persist, then there is a chance a side gate(s) will be opened to manage downstream temperature, however, now it is considered unlikely.
- Meteorological Uncertainty: Shorter term forecasts (8-14 day) suggest normal temperatures
- Longer term forecasts (one-month outlook) suggest above normal chances of warmer temperatures

Resources:

- Excellent link for short term precipitation forecasts, overlay with burn areas, debris flow potential, etc: <https://www.cnrfc.noaa.gov/>
- Comprehensive Upper Sacramento fishery information: <https://www.calfish.org/ProgramsData/ConservationandManagement/CentralValleyMonitoring/CDFWUpperSacRiverBasinSalmonidMonitoring.aspx>

CVP Northern System Operation Outlooks

DRAFT October 2019

90% Runoff Exceedance Outlook:

Inflow based on DWR B120 90%; Historical Inflows Oct and future months

Federal End of the Month Storage/Elevation (TAF/Feet)

		Oct	Nov	Dec	Jan	Feb	Mar
Shasta	3425	3202	3151	3113	3193	3410	3729
Elev.		1016	1014	1013	1016	1025	1038

Monthly River Releases (cfs)

Sacramento	7500	5000	5000	4000	3250	4000
Clear Creek	200	200	200	200	200	200

Trinity Diversions (TAF)

	Oct	Nov	Dec	Jan	Feb	Mar
Carr Power Plant	25	30	21	15	20	43
Spring Creek PP	45	20	12	10	20	50

Please note:

CVP actual operations do not follow any forecasted operation or outlook; actual operations are based on real-time conditions.

CVP operational forecasts or outlooks consider general system-wide dynamics and do not necessarily address specific watershed/tributary details.

CVP releases represent monthly averages.

CVP operations are updated monthly as new hydrology information is made available December through May.

50% Runoff Exceedance Outlook:

Inflow based on DWR B120 50%; Historical Inflows Oct and future months

Federal End of the Month Storage/Elevation (TAF/Feet)

		Oct	Nov	Dec	Jan	Feb	Mar
Shasta	3425	3242	3231	3283	3550	3933	4248
Elev.		1018	1018	1020	1031	1045	1057

Monthly River Releases (cfs)

Sacramento	7500	5500	5500	5500	8000	10000
Clear Creek	200	200	200	240	200	200

Trinity Diversions (TAF)

	Oct	Nov	Dec	Jan	Feb	Mar
Carr Power Plant	24	25	9	0	67	100
Spring Creek PP	45	20	12	19.8	100	125

Estimated CVP Operations 90% Exceedance

Storages

Federal End of the Month Storage/Elevation (TAF/Feet)

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Trinity	2043	2000	1964	1945	1943	1960	1984	2043	2076	1975	1855	1699	1546
	Elev.	2341	2338	2337	2337	2338	2340	2344	2346	2339	2331	2319	2307
Whiskeytown	237	206	206	206	206	206	206	238	238	238	238	238	238
	Elev.	1199	1199	1199	1199	1199	1199	1209	1209	1209	1209	1209	1209
Shasta	3425	3202	3151	3113	3193	3410	3729	3792	3698	3359	2893	2532	2285
	Elev.	1016	1014	1013	1016	1025	1038	1040	1036	1023	1003	986	973
Folsom	714	583	488	402	352	371	422	501	528	477	409	319	261
	Elev.	426	415	403	396	399	406	417	420	414	404	390	380
New Melones	2033	1977	1972	1970	1964	1955	1953	1852	1741	1640	1542	1461	1412
	Elev.	1050	1050	1050	1049	1048	1048	1039	1028	1018	1008	999	993
San Luis	464	379	525	726	881	811	734	622	449	200	45	22	70
	Elev.	460	473	506	528	520	522	500	471	435	390	363	387
Total		8345	8305	8362	8540	8713	9029	9047	8730	7888	6981	6271	5812

Monthly River Releases (TAF/cfs)

Trinity	TAF	23	18	18	18	17	18	36	92	47	28	53	52
	cfs	373	300	300	300	300	300	600	1,498	783	450	857	870
Clear Creek	TAF	12	12	12	12	11	12	13	13	17	9	9	9
	cfs	200	200	200	200	200	200	218	216	288	150	150	150
Sacramento	TAF	461	297	307	246	180	246	387	430	654	738	615	506
	cfs	7500	5000	5000	4000	3250	4000	6500	7000	11000	12000	10000	8500
American	TAF	166	134	138	111	83	119	124	143	119	103	122	100
	cfs	2700	2250	2250	1800	1500	1943	2088	2332	2003	1671	1986	1680
Stanislaus	TAF	52	18	18	22	20	12	91	76	22	15	15	15
	cfs	842	300	300	358	364	200	1537	1243	363	250	250	250

Trinity Diversions (TAF)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Carr PP	25	30	21	15	20	43	40	17	105	100	101	100
Spring Crk. PP	45	20	12	10	20	50	10	10	90	90	90	90

Delta Summary (TAF)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Tracy	75	230	265	230	45	49	45	46	50	185	264	250
USBR Banks	0	0	0	0	0	0	0	0	0	11	11	11
Contra Costa	16.8	18.4	18.3	14.0	14.0	12.7	12.7	12.7	9.8	11.1	12.7	14.0
Total USBR	92	248	283	244	59	62	57	59	60	207	288	275
Total Export	167	358	548	401	123	225	87	90	204	237	379	584
COA Balance	0	0	0	0	-34	-28	-41	-70	0	0	0	160
Vernalis	99	66	81	85	90	92	151	156	107	106	107	95
Vernalis	1606	1107	1325	1383	1625	1501	2538	2543	1792	1730	1747	1595
Old/Middle River Std.												
Old/Middle R. calc.	-1,956	-4,731	-6,862	-4,991	-1,565	-2,729	-575	-567	-2,421	-2,781	-4,548	-7,431
Computed DOI	12428	6152	4604	8687	11400	11403	10506	7597	7094	4994	3497	3009
Excess Outflow	1025	269	537	2684	0	0	0	0	0	0	0	0
% Export/Inflow	15%	45%	64%	44%	15%	23%	10%	12%	24%	28%	45%	63%
% Export/Inflow std.	65%	65%	65%	65%	45%	35%	35%	35%	35%	65%	65%	65%

Hydrology

Water Year Inflow (TAF)	Trinity	Shasta	Folsom	New Melones
Year to Date + Forecasted	600	3,500	1,200	440
% of mean	50%	63%	44%	42%

CVP actual operations do not follow any forecasted operation or outlook; actual operations are based on real-time conditions.

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CVP releases or export values represent monthly averages.

CVP Operations are updated monthly as new hydrology information is made available December through May.

Estimated CVP Operations 50% Exceedance

Storages

Federal End of the Month Storage/Elevation (TAF/Feet)

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Trinity	2043	2006	1993	2022	2087	2132	2160	2255	2201	2038	1889	1738	1589
	Elev.	2341	2340	2342	2347	2350	2352	2358	2354	2344	2333	2322	2310
Whiskeytown	237	206	206	206	206	206	206	238	238	238	238	238	238
	Elev.	1199	1199	1199	1199	1199	1199	1209	1209	1209	1209	1209	1209
Shasta	3425	3242	3231	3283	3550	3933	4248	4411	4456	4234	3764	3369	3149
	Elev.	1018	1018	1020	1031	1045	1057	1062	1064	1056	1039	1023	1014
Folsom	714	623	552	498	511	564	721	875	965	955	763	660	591
	Elev.	431	423	416	418	424	441	457	465	464	446	435	427
New Melones	2033	1987	1968	1954	1939	1950	1959	1950	1995	1970	1893	1827	1784
	Elev.	1051	1049	1048	1047	1048	1049	1048	1052	1050	1042	1036	1032
San Luis	464	426	602	803	966	966	957	809	571	393	189	66	78
	Elev.	460	478	511	533	533	532	502	458	409	373	356	363
Total		8488	8550	8766	9258	9750	10250	10539	10426	9827	8735	7898	7428

Monthly River Releases (TAF/cfs)

Trinity	TAF	23	18	18	18	17	18	28	258	126	68	53	52
	cfs	373	300	300	300	300	300	477	4,189	2,120	1,102	857	870
Clear Creek	TAF	12	12	12	15	11	12	13	13	17	9	9	9
	cfs	200	200	200	240	200	200	218	216	288	150	150	150
Sacramento	TAF	461	327	338	338	444	615	506	430	625	768	676	506
	cfs	7500	5500	5500	5500	8000	10000	8500	7000	10500	12500	11000	8500
American	TAF	166	160	166	138	208	154	268	369	226	303	192	170
	cfs	2700	2690	2700	2250	3750	2500	4500	6000	3807	4935	3127	2861
Stanislaus	TAF	52	48	49	61	56	61	83	96	56	18	18	18
	cfs	842	800	800	1000	1000	1000	1400	1555	940	300	300	300

Trinity Diversions (TAF)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Carr PP	24	25	9	0	67	100	81	9	131	99	100	99
Spring Crk. PP	45	20	12	19.8	100	125	60	10	120	90	90	90

Delta Summary (TAF)

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Tracy		122	260	265	238	115	140	54	55	225	266	265	260
USBR Banks		0	0	0	0	0	0	0	0	0	22	22	22
Contra Costa		16.8	18.4	18.3	14.0	14.0	12.7	12.7	12.7	9.8	11.1	12.7	14.0
Total USBR		139	278	283	252	129	153	66	68	235	299	300	296
COA Balance		0	5	5	5	5	5	5	5	0	-1	-1	67
Vernalis	TAF	130	135	140	166	280	298	161	219	130	83	74	77
Vernalis	cfs	2111	2262	2280	2708	5034	4855	2701	3556	2184	1357	1211	1292
Old/Middle River Std.													
Old/Middle R. calc.	cfs	-3,107	-6,411	-7,747	-4,657	-1,930	-1,721	-694	-304	-4,096	-7,671	-8,722	-7,943
Computed DOI		13111	7816	10004	18350	31032	31363	20709	15096	9397	8004	5596	7094
Excess Outflow		0	0	5938	12347	18821	19960	9312	3693	0	0	0	0
% Export/Inflow		22%	50%	50%	27%	13%	12%	6%	8%	31%	44%	54%	51%
% Export/Inflow std.		65%	65%	65%	65%	45%	35%	35%	35%	35%	65%	65%	65%

Hydrology

Water Year Inflow (TAF)	Trinity		Shasta		Folsom		New Melones
Year to Date + Forecasted % of mean	2671		12,300		6,669		2779
	221%		222%		245%		263%

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CVP releases or export values represent monthly averages.

CVP Operations are updated monthly as new hydrology information is made available December through May.

Northern CVP Water Temperature Report

October - 2019

Page	Description
1	- Mean Daily Water Temperature, Release Flow Rates and Air Temperatures with Monthly Averages
2	- Redding 10-Day Forecasted Air Temperatures
3	- Sacramento River Mean Daily Water Temperature, Air Temperature and 10-Day Forecasted Air Temperature Plot - Water Temperature Measuring Station Details - Temperature Control Point Details
4	- Shasta Lake Isothermobaths Plot
5	- Trinity Lake Isothermobaths Plot
6	- Whiskeytown Lake Isothermobaths Plot
x	- TCD Configuration (External Link)



All Data in this Report is Preliminary and Subject to Change

DATE	Mean Daily Water Temperatures (°F)															Mean Daily Release (CFS)			Mean Daily Air Temperatures (°F)			
	TCD ¹	SHD	SPP ¹	KWK	SAC	CCR	APR ⁴	BSF ²	JLF	BND	RDB	IGO	LWS	NFH ³	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB	LWS	
Sep	50.6	49.6	56.9	51.3	51.9	52.7	53.3	53.8	55.3	55.9	56.9	57.3	52.3	-	7354	496	8298	73.8	68.9	70.5	-	
10/01	# -	? 49.1	56.6	50.6	51.0	51.3	51.6	51.9	52.8	53.2	53.6	55.9	48.7	52.8	6511	622	7559	59.0	53.5	55.9	-	
10/02	# -	49.1	# -	50.6	!	-	51.4	51.7	52.1	53.0	53.4	53.8	56.1	48.9	52.8	5534	1238	6691	59.5	54.5	57.5	-
10/03	# -	49.0	# -	51.6	!	-	52.1	52.5	52.9	53.9	54.2	54.4	56.2	48.8	53.4	4709	1613	6557	64.0	58.5	61.3	-
10/04	# -	48.9	# -	51.7	52.1	52.4	52.8	53.2	54.2	54.5	54.8	55.7	48.4	52.9	4410	1601	6552	61.0	56.0	60.3	-	
10/05	# -	48.9	# -	51.6	52.1	52.6	53.1	53.5	54.3	54.7	55.0	55.7	48.6	52.5	4963	1173	6512	70.5	61.9	66.3	-	
10/06	# -	49.3	# -	51.0	51.5	52.3	53.0	53.6	54.6	55.1	55.6	55.9	48.7	52.7	5763	647	6561	71.5	65.7	68.3	-	
10/07	# -	49.3	# -	50.8	51.3	51.9	52.5	53.1	54.1	54.6	55.4	55.7	48.8	52.9	5494	883	6562	68.0	61.5	65.5	-	
10/08	# -	49.3	# -	51.5	51.8	52.1	52.6	53.1	54.1	54.6	55.2	55.8	48.9	53.0	4607	1466	6559	68.0	63.3	66.7	-	
10/09	# -	49.3	# -	51.9	52.1	52.3	52.6	52.8	53.6	54.0	54.3	55.1	48.2	52.1	4572	1510	6569	64.5	61.2	63.8	-	
10/10	# -	49.1	55.7	51.4	51.7	52.0	52.2	52.3	52.9	53.1	53.1	54.9	48.2	50.3	4704	1363	6565	67.0	61.3	62.8	-	
10/11	# -	49.2	55.5	51.2	51.3	51.9	52.1	52.3	52.9	53.1	53.3	54.7	47.9	49.7	4625	1527	6574	60.5	53.9	58.4	-	
10/12	# -	49.5	55.3	51.4	51.6	52.0	52.2	52.4	52.9	53.2	53.4	54.4	47.6	49.9	4392	1568	6559	59.0	54.2	57.3	-	
10/13	# -	? 49.5	55.1	51.3	51.6	52.2	52.5	52.7	53.3	53.6	53.7	54.4	47.5	50.5	4589	1296	6569	60.5	55.2	58.0	-	
10/14	# -	? 50.0	55.0	51.3	51.5	51.9	52.2	52.5	53.1	53.4	53.6	54.3	47.6	50.7	6625	1347	8458	61.5	55.8	59.1	-	
10/15	# -	? 50.0	54.8	51.3	51.5	51.8	52.0	52.2	52.9	53.2	53.4	54.1	47.5	50.8	6203	1286	8495	61.0	55.3	58.8	-	
10/16	# -	? 49.8	54.7	51.4	51.5	51.9	52.1	52.2	52.7	53.0	53.2	54.0	47.6	50.7	8186	1475	7389	59.0	55.1	58.3	-	
10/17	# -	? 49.8	54.7	51.6	51.9	52.4	52.7	53.0	53.8	54.1	54.0	54.3	48.4	51.9	8608	1454	6748	59.0	58.3	61.1	-	
10/18	# -	49.8	54.5	51.6	51.9	52.3	52.6	52.9	53.5	53.9	54.2	54.2	48.3	52.4	10627	1837	8605	59.0	56.3	57.2	-	
10/19	# -	49.8	54.3	51.5	51.6	52.0	52.3	52.6	53.4	53.9	54.2	54.3	48.9	52.9	10447	1833	8586	59.0	57.2	57.9	-	
10/20	# -	49.8	54.1	51.5	51.8	52.2	52.4	52.6	53.1	53.3	53.5	53.6	48.2	51.8	8788	1940	7481	60.0	54.9	58.8	-	
10/21	# -	49.8	54.2	51.8	52.1	52.6	52.8	53.0	53.7	54.0	54.3	53.9	48.7	52.5	5169	1774	6780	66.0	61.6	66.7	-	
10/22	# -	50.1	53.9	51.5	51.9	52.6	53.0	53.4	54.1	54.5	54.8	54.2	48.2	53.1	6222	839	8561	72.0	66.1	72.2	-	
10/23																						
10/24																						
10/25																						
10/26																						
10/27																						
10/28																						
10/29																						
10/30																						
10/31																						
Oct	-	49.5	54.9	51.4	51.7	52.1	52.4	52.7	53.5	53.8	54.1	54.9	48.3	51.9	6170	1377	7159	63.2	58.2	61.5	-	

Total CFS	135748	30292	157492
Total AF	269251	60083	312379

Legend

?	= 1-9 hours of data missing (Average includes estimations)
!	= 10 or more hours of data missing (Average not calculated)
#	= Station out of service
↑	= Record high air temperature
↓	= Record low air temperature
	= Monthly Averages

Notes

- Temperatures are weighted averages based on individual penstock flow and temperature
Highlighted cells in the TCD column indicate a TCD change was made on that day
- Current control point (see page 3 for more details)
- NFH is only reported in October, November and December
- APR = Airport Road. This is a virtual site interpolated linearly between CCR and BSF based on distance.

D A T E	Redding (RDD) Daily Air Temperatures (°F)																																			
	Actual			Forecasted																																
				Previous Day			Current Day			1 Day			2 Days			3 Days			4 Days			5 Days			6 Days			7 Days			8 Days			9 Days		
	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg
10/01	46	66	56.0	45	74	59.5	44	78	61.0	46	76	61.0	47	78	62.5	50	85	67.5	54	87	70.5	54	86	70.0	54	86	70.0	51	82	66.5	53	82	67.5	51	83	67.0
10/02	45	73	59.0	41	77	59.0	46	75	60.5	45	75	60.0	49	84	66.5	52	89	70.5	54	88	71.0	53	84	68.5	51	86	68.5	51	83	67.0	51	81	66.0	51	78	64.5
10/03	41	78	59.5	51	75	63.0	43	76	59.5	48	84	66.0	53	89	71.0	54	90	72.0	54	86	70.0	53	83	68.0	53	87	70.0	52	82	67.0	52	82	67.0	54	78	66.0
10/04	51	77	64.0	50	77	63.5	50	84	67.0	53	87	70.0	54	88	71.0	55	87	71.0	53	81	67.0	52	83	67.5	48	85	66.5	49	77	63.0	50	79	64.5	52	77	64.5
10/05	46	76	61.0	57	84	70.5	53	89	71.0	53	90	71.5	52	88	70.0	50	82	66.0	49	83	66.0	47	82	64.5	51	86	68.5	48	78	63.0	52	78	65.0	53	79	66.0
10/06	57	84	70.5	55	89	72.0	52	91	71.5	52	87	69.5	49	75	62.0	44	80	62.0	46	83	64.5	48	82	65.0	48	84	66.0	44	78	61.0	49	76	62.5	49	78	63.5
10/07	55	88	71.5	46	90	68.0	52	84	68.0	49	72	60.5	46	76	61.0	43	80	61.5	45	80	62.5	47	78	62.5	54	80	67.0	53	76	64.5	50	79	64.5	48	79	63.5
10/08	47	89	68.0	50	85	67.5	47	71	59.0	44	76	60.0	43	79	61.0	45	80	62.5	45	79	62.0	46	80	63.0	50	85	67.5	50	78	64.0	46	73	59.5	48	75	61.5
10/09	48	88	68.0	57	73	65.0	45	78	61.5	43	80	61.5	45	77	61.0	45	78	61.5	46	80	63.0	47	79	63.0	51	79	65.0	52	67	59.5	51	71	61.0	46	75	60.5
10/10	56	73	64.5	56	78	67.0	43	80	61.5	44	80	62.0	45	77	61.0	46	78	62.0	47	80	63.5	48	78	63.0	49	68	58.5	48	70	59.0	52	74	63.0	46	74	60.0
10/11	56	78	67.0	46	80	63.0	44	79	61.5	45	78	61.5	46	80	63.0	46	80	63.0	47	80	63.5	48	76	62.0	49	78	63.5	48	73	60.5	49	76	62.5	44	74	59.0
10/12	40	81	60.5	40	83	61.5	46	80	63.0	46	81	63.5	46	81	63.5	48	76	62.0	47	75	61.0	45	72	58.5	46	69	57.5	46	77	61.5	43	76	59.5	44	81	62.5
10/13	38	80	59.0	43	81	62.0	41	82	61.5	43	81	62.0	45	77	61.0	46	74	60.0	46	71	58.5	46	71	58.5	51	75	63.0	52	84	68.0	53	80	66.5	52	78	65.0
10/14	42	79	60.5	42	82	62.0	44	79	61.5	44	75	59.5	43	69	56.0	44	72	58.0	41	69	55.0	42	73	57.5	50	82	66.0	48	79	63.5	49	81	65.0	52	79	65.5
10/15	40	83	61.5	43	80	61.5	45	75	60.0	45	69	57.0	43	70	56.5	44	69	56.5	43	74	58.5	48	82	65.0	55	86	70.5	53	84	68.5	53	82	67.5	54	79	66.5
10/16	42	80	61.0	42	75	58.5	46	70	58.0	42	70	56.0	45	68	56.5	41	75	58.0	49	84	66.5	50	85	67.5	55	84	69.5	54	82	68.0	52	78	65.0	47	77	62.0
10/17	41	77	59.0	50	70	60.0	41	71	56.0	45	67	56.0	42	73	57.5	47	84	65.5	50	86	68.0	49	84	66.5	52	86	69.0	49	82	65.5	50	81	65.5	49	78	63.5
10/18	47	71	59.0	46	73	59.5	45	71	58.0	42	74	58.0	48	83	65.5	49	86	67.5	50	83	66.5	49	82	65.5	47	88	67.5	49	80	64.5	46	77	61.5	45	75	60.0
10/19	46	72	59.0	54	72	63.0	42	75	58.5	48	84	66.0	51	85	68.0	52	84	68.0	50	84	67.0	48	85	66.5	49	89	69.0	52	82	67.0	47	76	61.5	43	75	59.0
10/20	50	68	59.0	43	74	58.5	50	84	67.0	54	87	70.5	53	84	68.5	51	85	68.0	48	86	67.0	47	82	64.5	48	80	64.0	45	72	58.5	39	72	55.5	40	69	54.5
10/21	43	77	60.0	50	84	67.0	53	87	70.0	58	86	72.0	53	85	69.0	49	86	67.5	48	80	64.0	44	72	58.0	42	73	57.5	42	71	56.5	37	70	53.5	40	71	55.5
10/22	48	84	66.0	58	87	72.5	56	85	70.5	53	85	69.0	50	86	68.0	49	83	66.0	46	75	60.5	40	73	56.5	47	82	64.5	45	74	59.5	42	74	58.0	44	72	58.0
10/23	56	88	72.0	56	85	70.5	53	86	69.5	49	87	68.0	50	85	67.5	46	75	60.5	41	75	58.0	40	76	58.0	44	85	64.5	46	77	61.5	44	76	60.0	44	74	59.0
10/24																																				
10/25																																				
10/26																																				
10/27																																				
10/28																																				
10/29																																				
10/30																																				
10/31																																				

Web Links

[10-Day Min/Max Forecast](#)

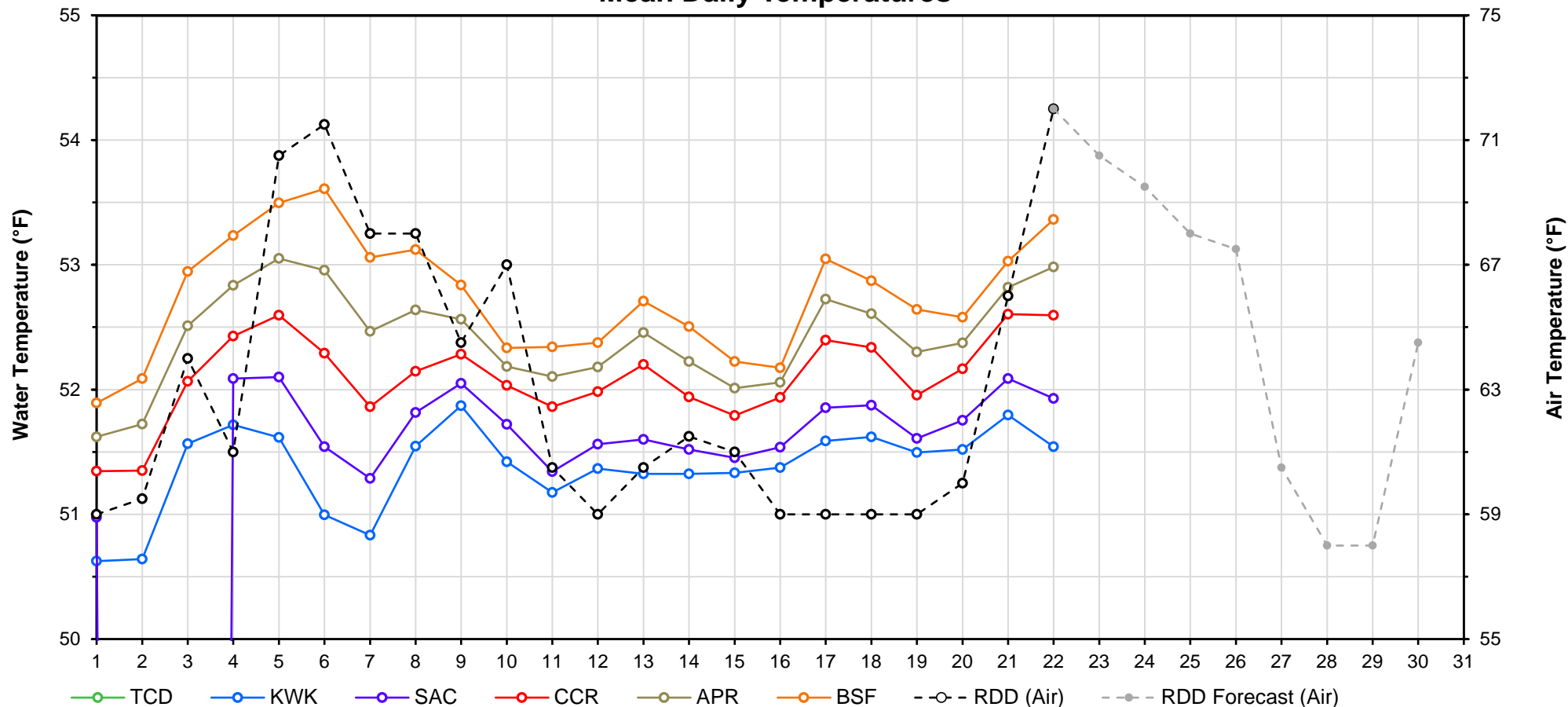
[Previous Days Min/Max Actuals](#)

Legend

NR = Forecasted temperatures not recorded

100 = Previous day actual temperatures in red and bolded indicate a record temperature for that date

Mean Daily Temperatures



Station Details			
Code	Body of Water	Location ¹	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	Click Here
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	Click Here
SAC	Sacramento River	4.8 miles downstream of Keswick Dam	Click Here
CCR	Sacramento River	9.7 miles downstream of Keswick Dam	Click Here
BSF	Sacramento River	25 miles downstream of Keswick Dam	Click Here
JLF	Sacramento River	34 miles downstream of Keswick Dam	Click Here
BND	Sacramento River	41 miles downstream of Keswick Dam	Click Here
RDB	Sacramento River	58 miles downstream of Keswick Dam	Click Here
IGO	Clear Creek	7.3 miles downstream of Whiskeytown Dam	Click Here
LWS	Trinity River	1.1 miles downstream of Lewiston Dam	Click Here
DGC ²	Trinity River	19 miles downstream of Lewiston Dam	Click Here
NFH ³	Trinity River	38 miles downstream of Lewiston Dam	Click Here

Temperature Control Point		
Point	Temp. (°F)	Begin Date
BSF	56.0	05/25/2018

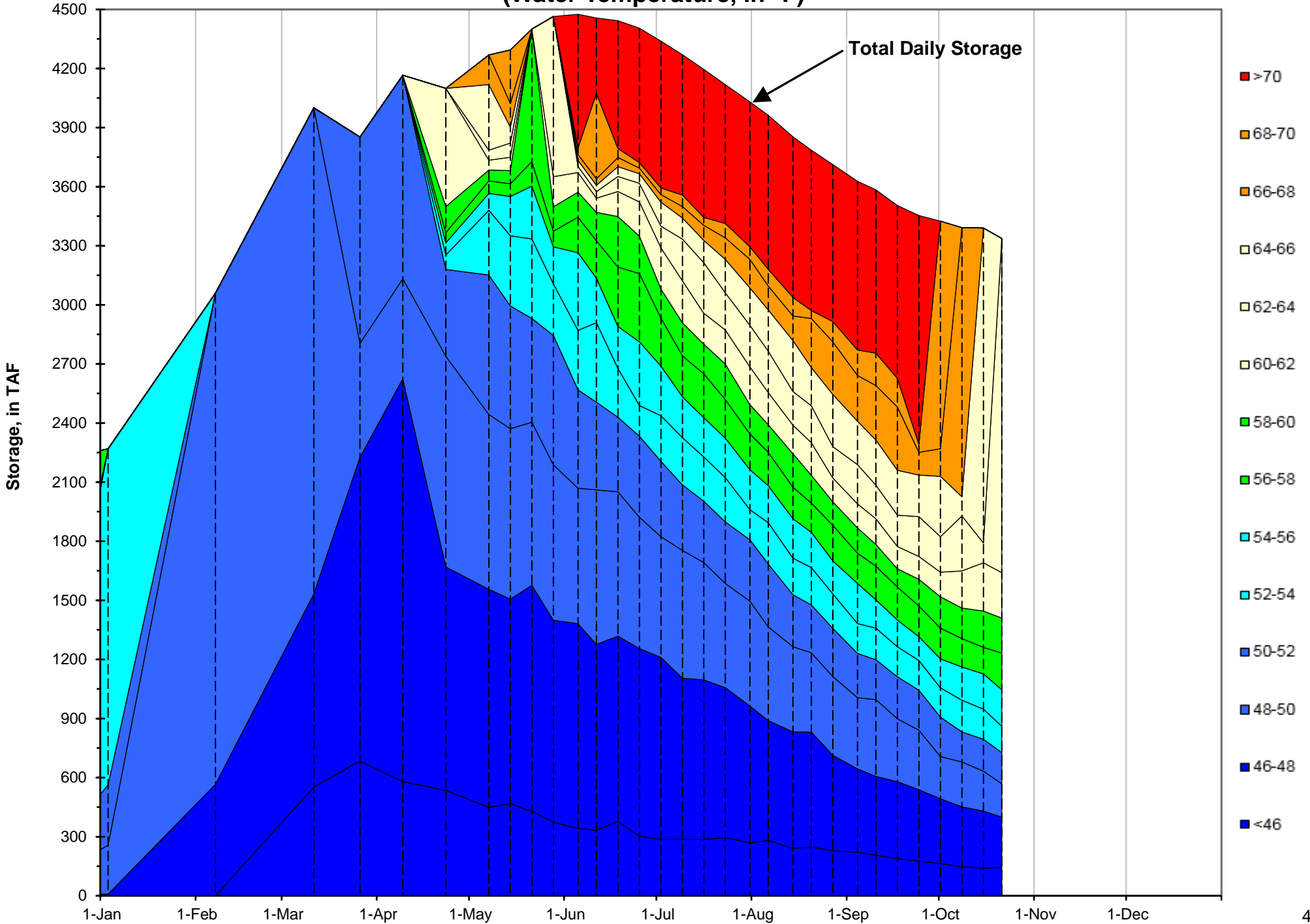
Notes

¹ Distances are approximate

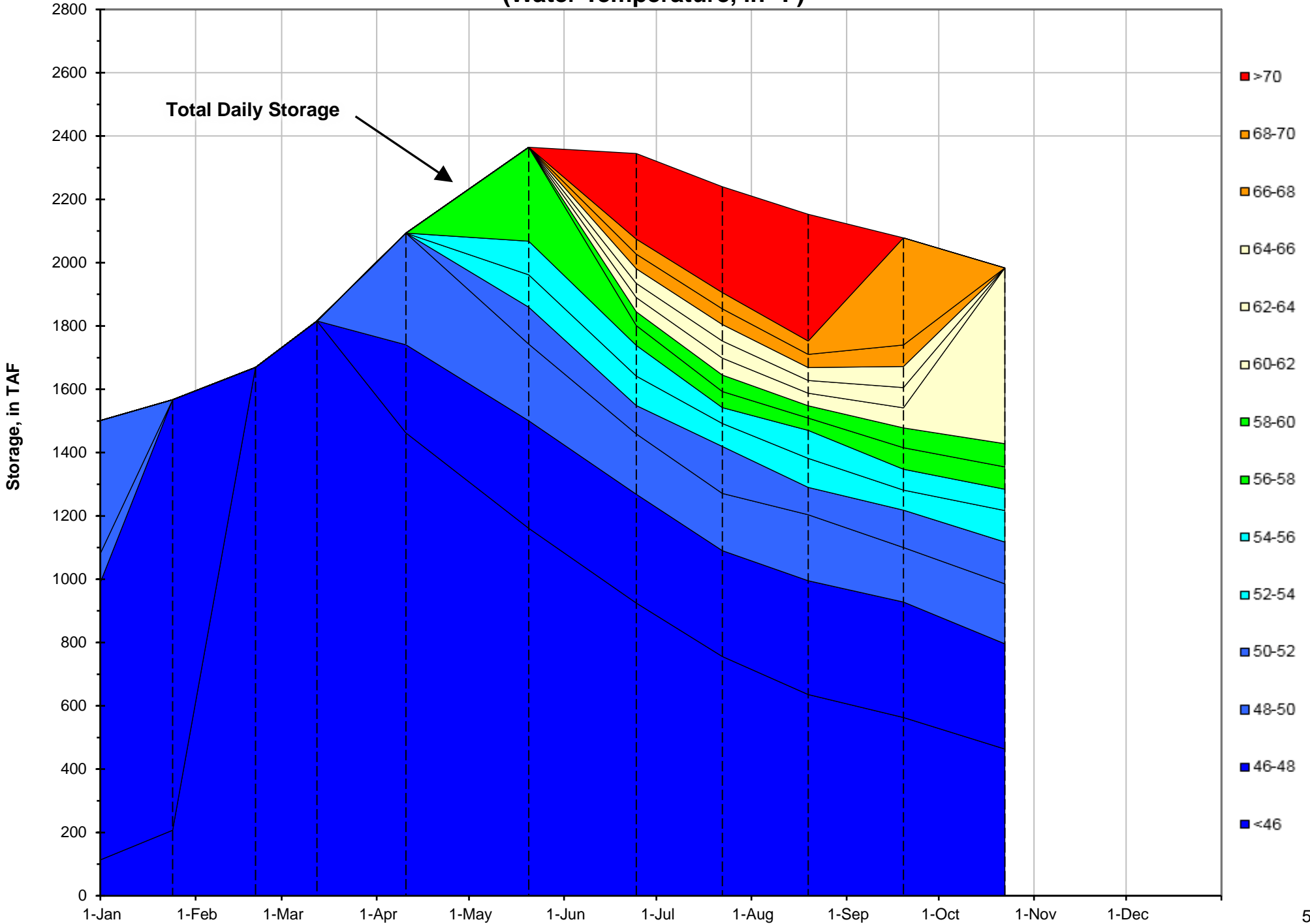
² DGC is only reported in September

³ NFH is only reported in October, November and December

Shasta Lake Isothermobaths - 2019
(Water Temperature, in °F)

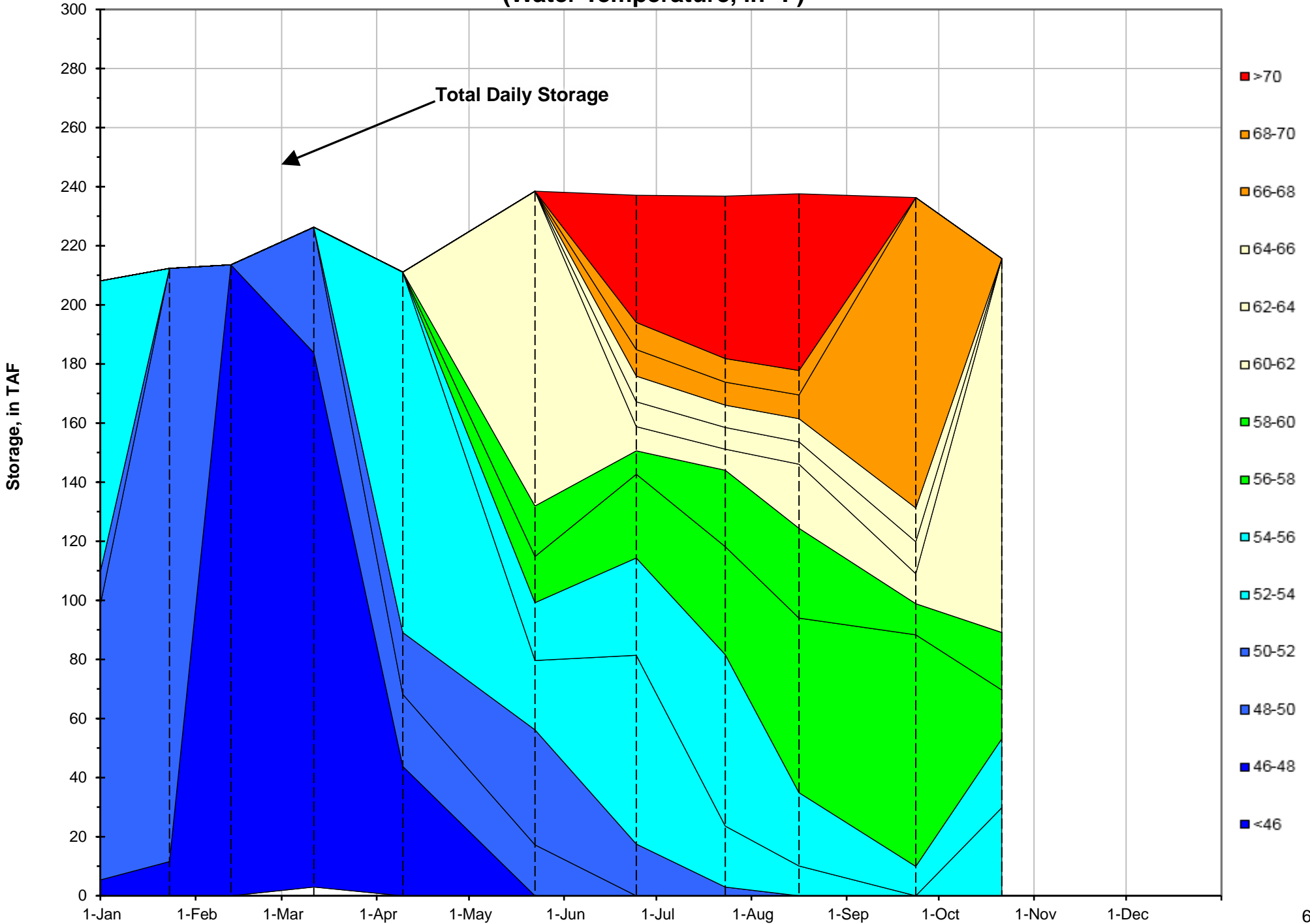


Trinity Lake Isothermobaths - 2019
(Water Temperature, in °F)



Whiskeytown Lake Isothermobaths - 2019

(Water Temperature, in °F)

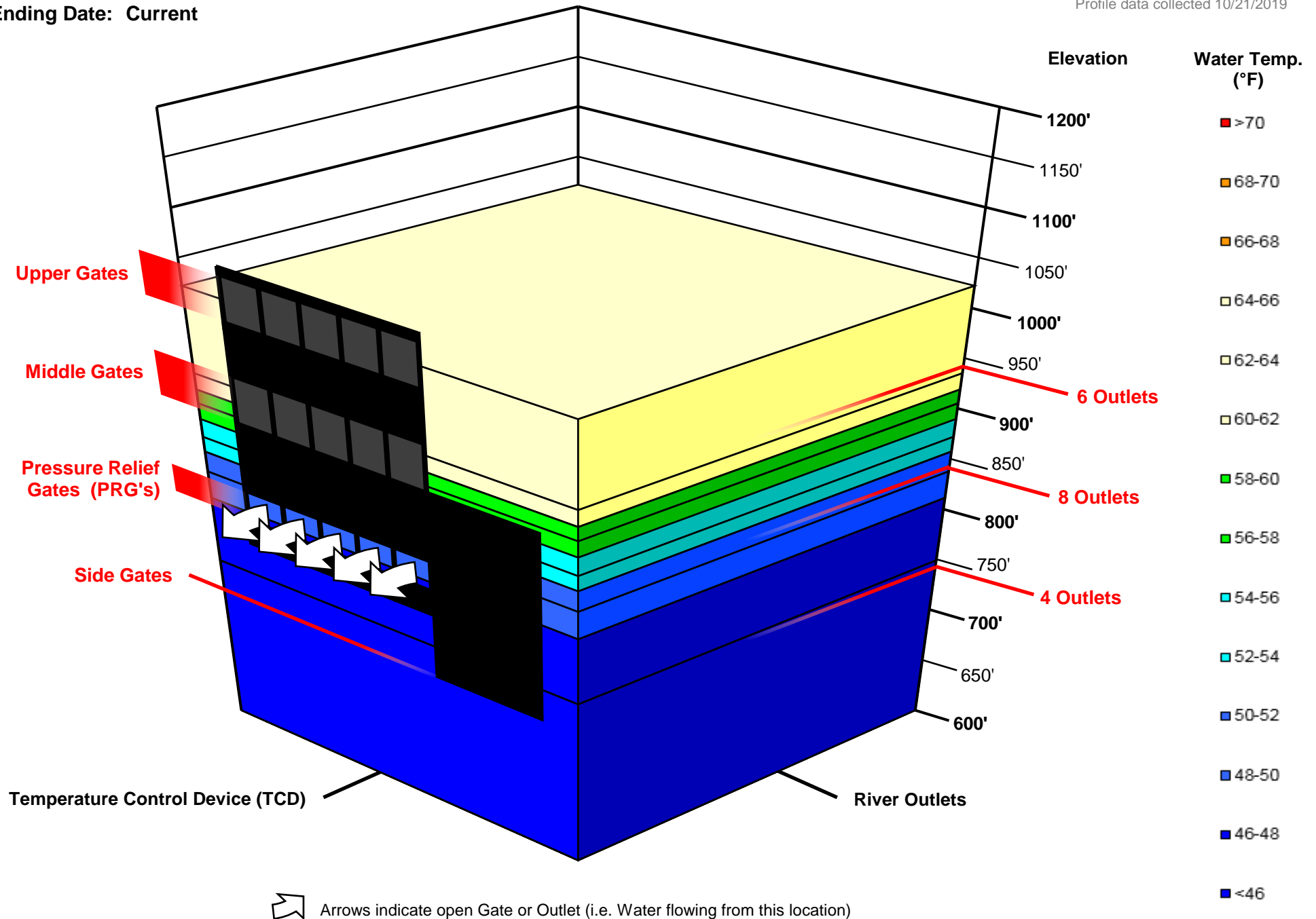


Shasta TCD Configuration

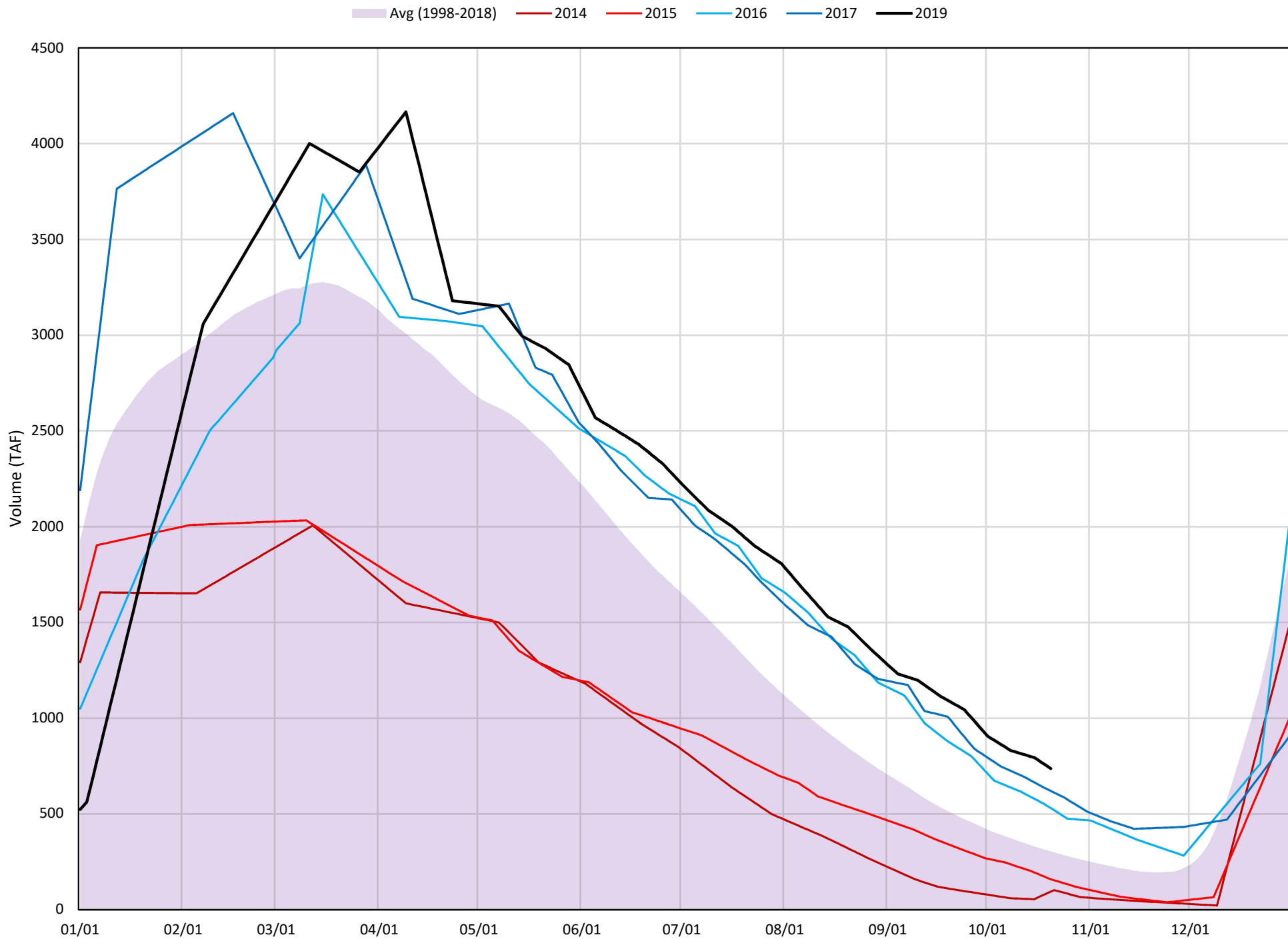
Starting Date: 09/27/2019

Ending Date: Current

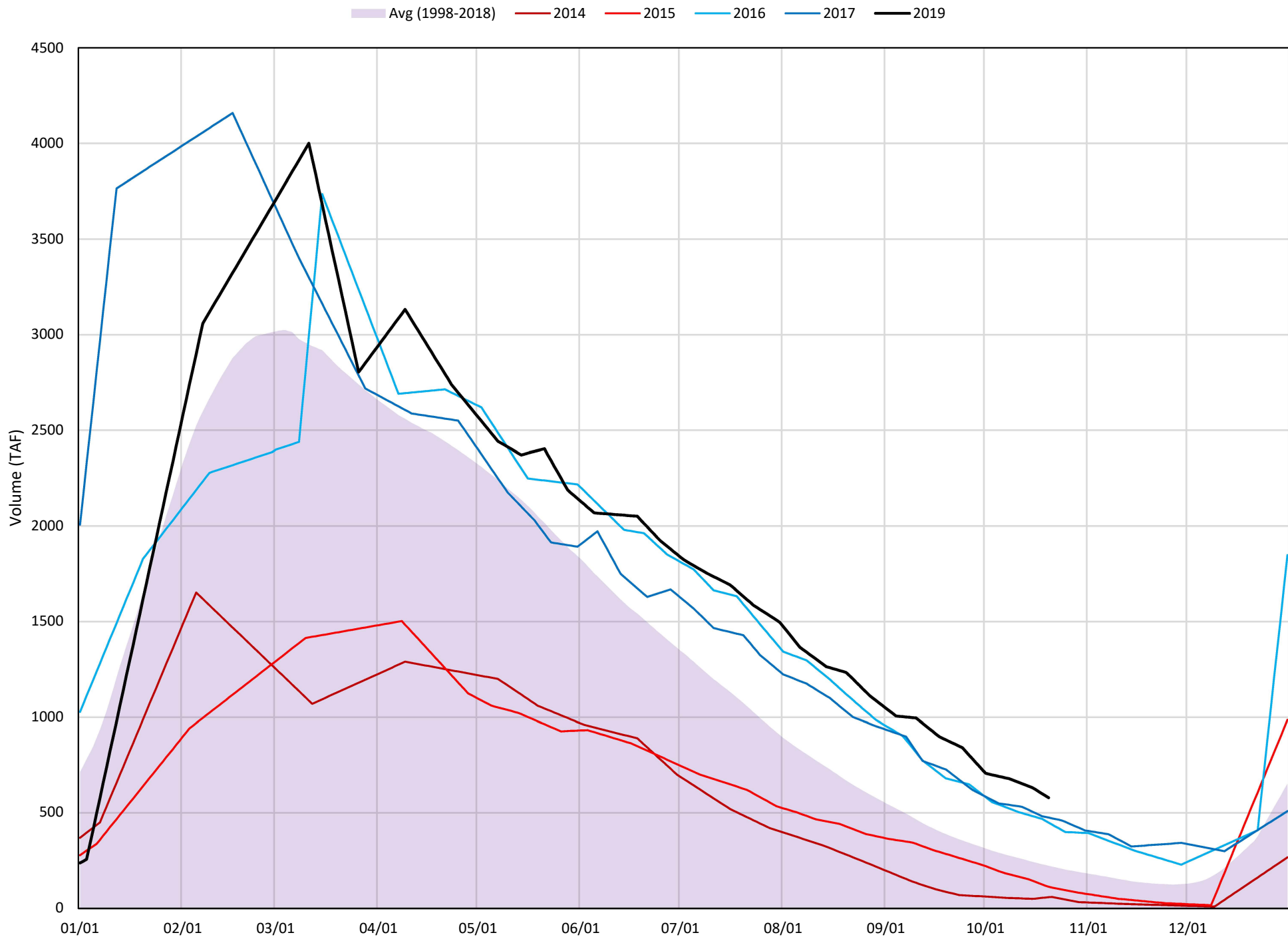
Profile data collected 10/21/2019



≤52°F - Shasta Cold Water Pool Volume

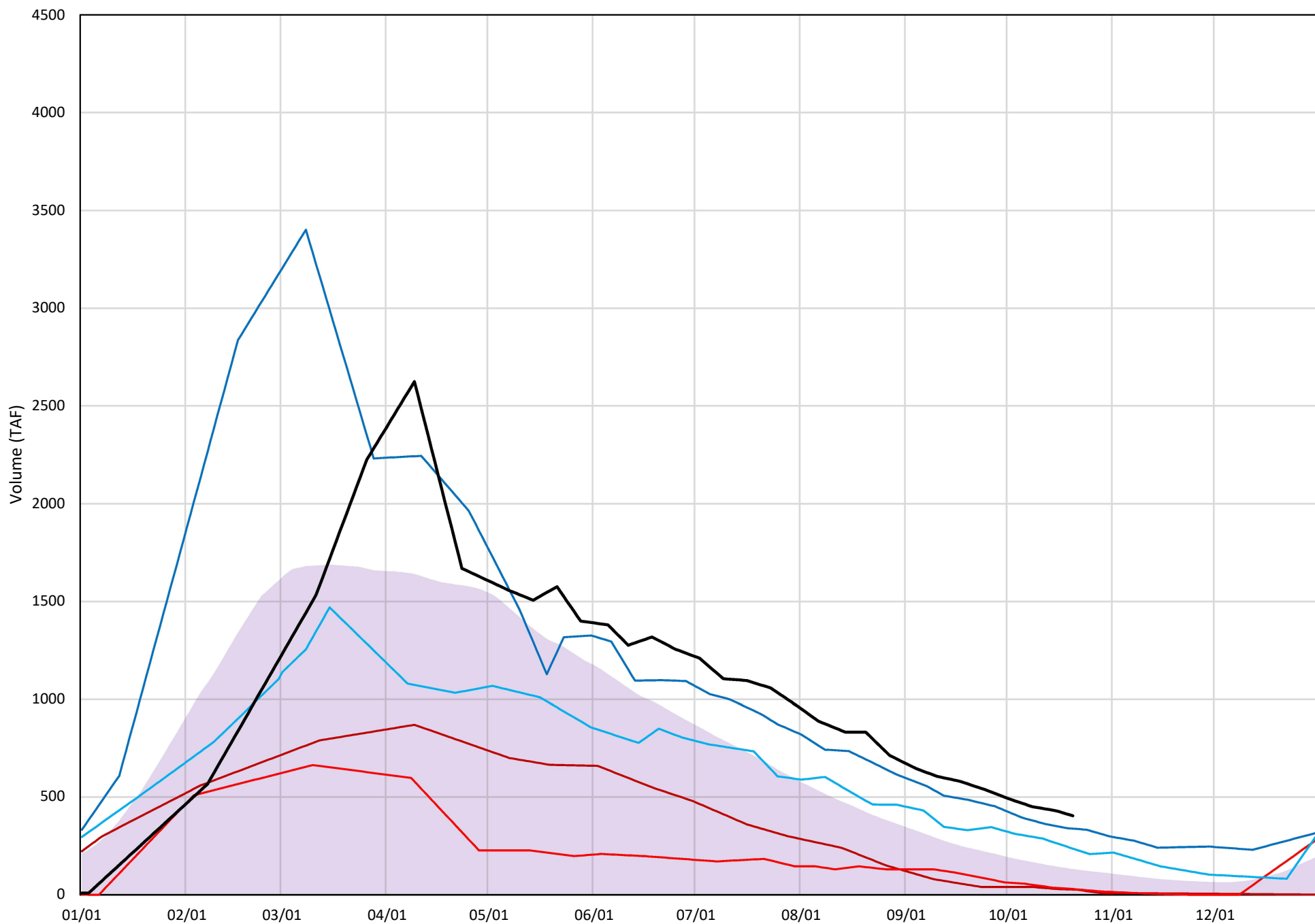


≤50°F - Shasta Cold Water Pool Volume

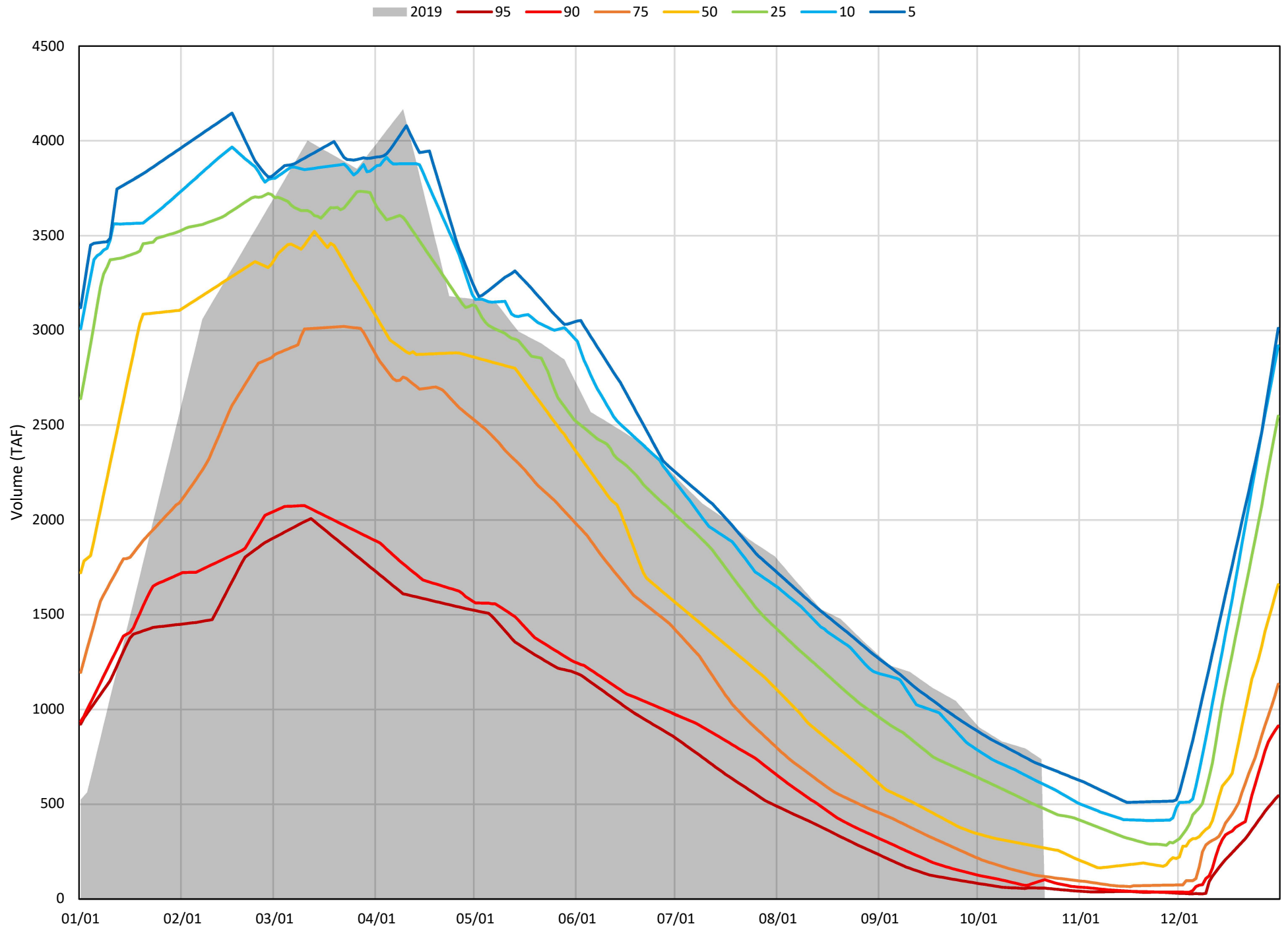


≤48°F - Shasta Cold Water Pool Volume

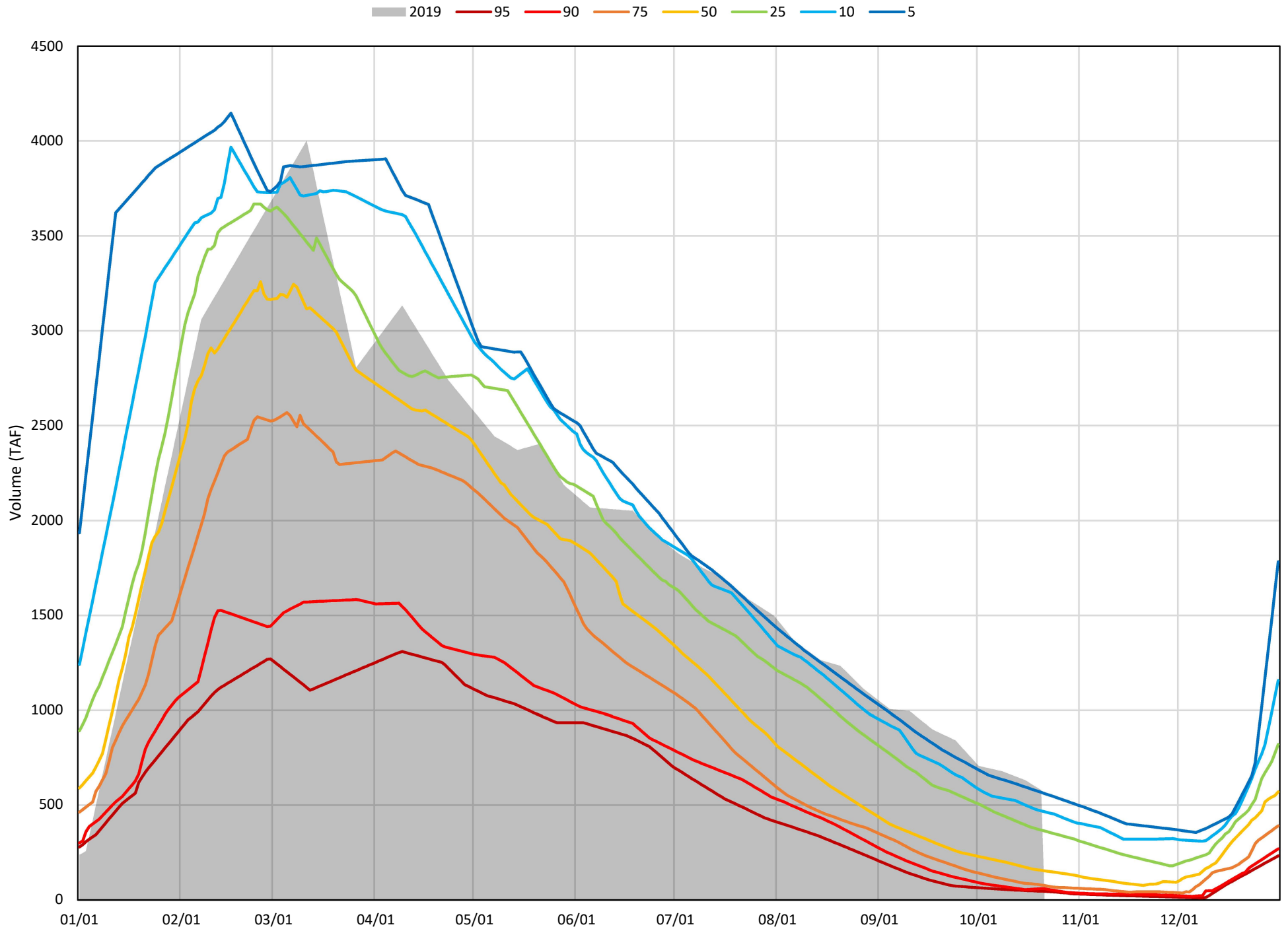
Avg (1998-2018) 2014 2015 2016 2017 2019



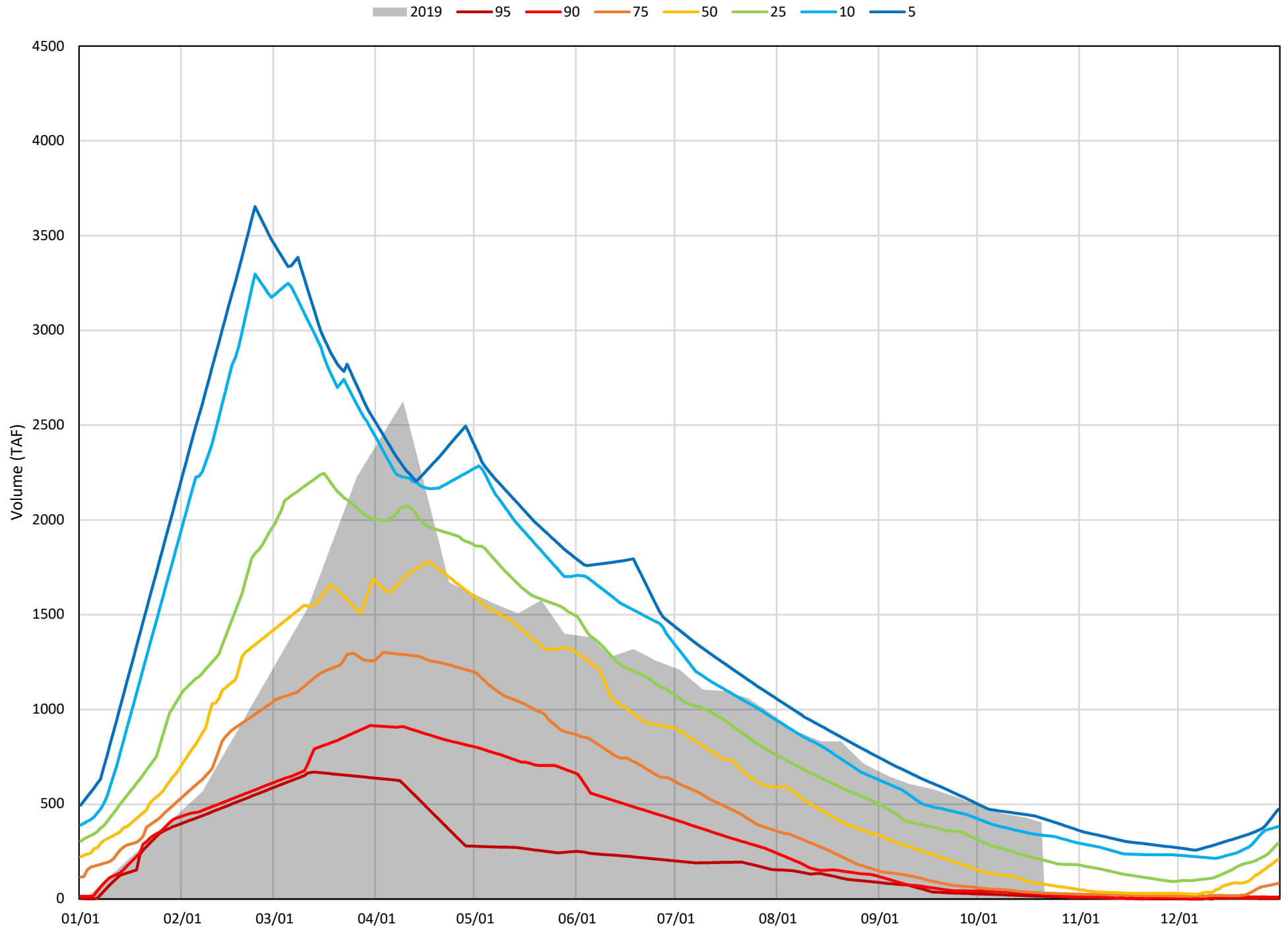
≤52°F - Shasta Cold Water Pool Volume Percent Exceedances (1998-2018)



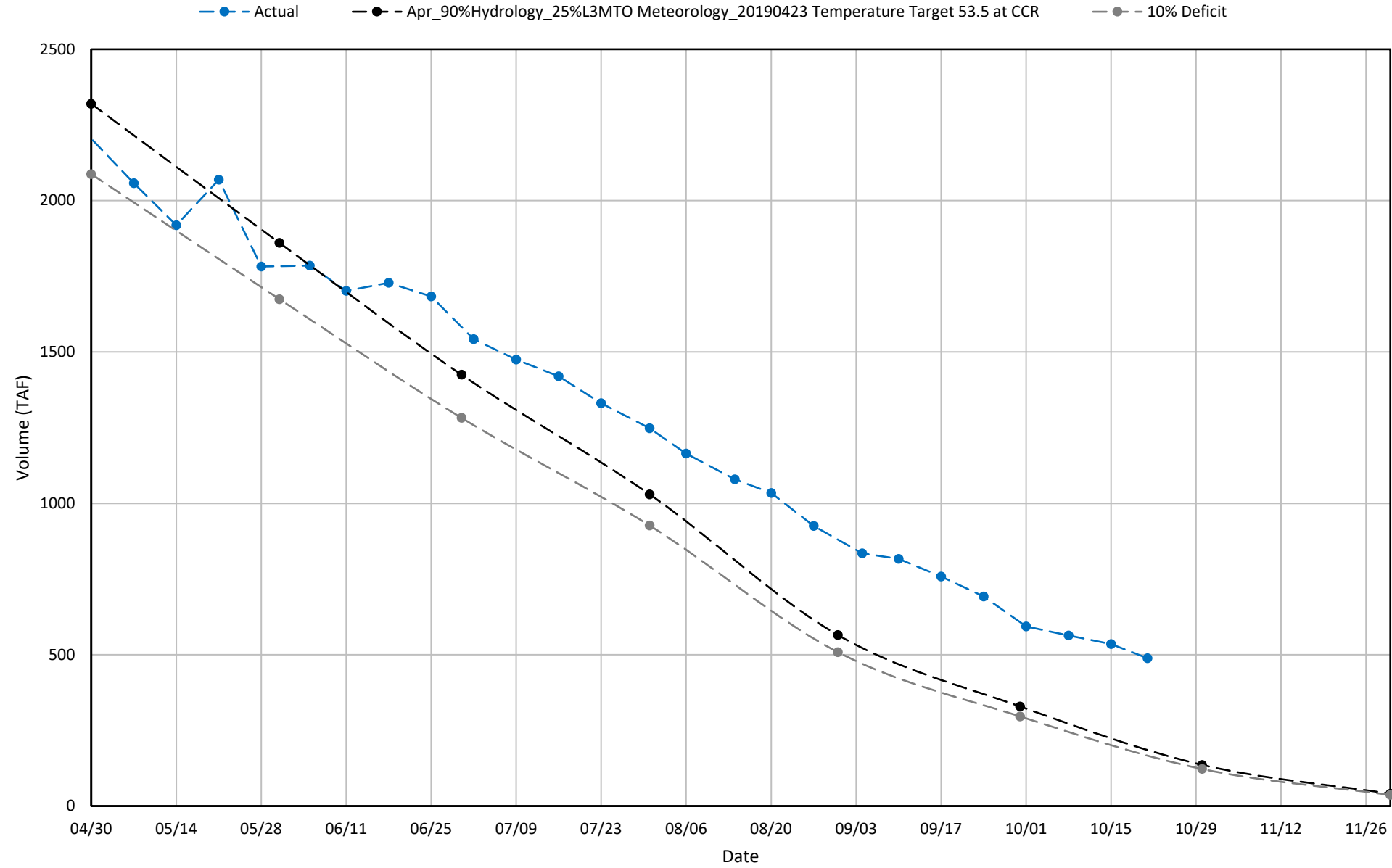
≤50°F - Shasta Cold Water Pool Volume Percent Exceedances (1998-2018)



≤48°F - Shasta Cold Water Pool Volume Percent Exceedances (1998-2018)



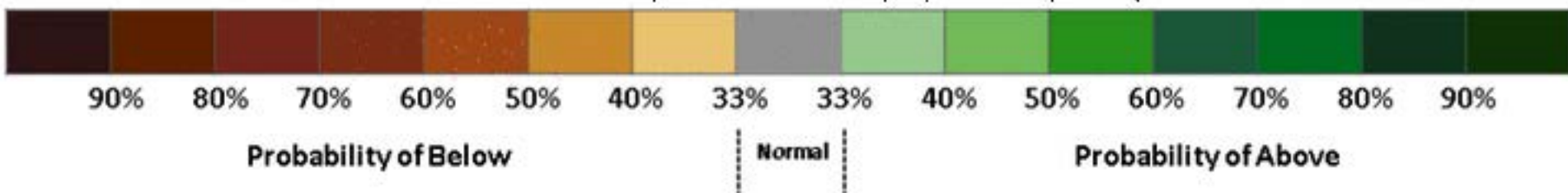
2019 Shasta Cold Water Pool Volume $\leq 49^{\circ}\text{F}$





8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 22 OCT 2019
VALID OCT 30 - NOV 05, 2019

DASHED BLACK LINES ARE CLIMATOLOGY
(10THS OF INCHES) SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL





8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 22 OCT 2019
VALID OCT 30 - NOV 05, 2019

DASHED BLACK LINES ARE CLIMATOLOGY
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL

