

Northern CVP Water Temperature Report

May - 2022

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— BUREAU OF —
RECLAMATION

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 ²	CCR	BSF	BND	RDB	IGO	LWS	DGC	NFH	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB	
Apr	52.1	50.9	50.2	52.4	52.8	53.6	55.1	56.3	57.0	51.1	49.1	50.3	51.5	2930	126	3259	59.8	57.6	59.4	
05/01	54.0	51.8	51.7	54.0	54.7	55.7	58.1	60.3	61.4	53.1	49.8	50.4	? 51.8	2589	75	3262	68.0	64.8	65.4	
05/02	53.4	51.4	51.8	54.0	54.7	55.9	58.6	60.1	60.8	53.0	50.0	51.2	? 52.8	2937	76	3269	59.5	61.0	60.4	
05/03	52.7	52.2	51.6	54.0	54.9	55.9	57.8	59.6	60.6	53.1	50.2	50.8	? 52.3	2663	174	3259	66.0	63.5	64.4	
05/04	53.2	51.6	52.0	54.1	55.2	? 56.6	59.3	61.2	? 61.8	54.3	50.2	51.7	!	2742	75	3261	70.0	67.4	70.5	
05/05	53.6	52.1	51.9	54.1	54.3	54.8	57.9	60.3	61.5	53.0	49.9	51.5	!	3505	75	3266	65.0	62.6	65.4	
05/06	52.1	51.3	52.0	53.8	54.4	54.9	56.5	58.2	? 59.4	53.1	50.0	50.7	51.5	3175	75	3259	64.5	63.0	65.2	
05/07	53.4	51.3	52.0	54.2	54.7	55.3	56.9	58.7	59.6	53.1	49.8	50.7	51.7	2828	75	3261	58.5	58.6	60.0	
05/08	52.6	51.2	52.3	54.1	54.4	54.6	56.6	57.9	58.8	51.6	49.8	50.2	49.8	2997	76	3261	51.5	50.0	53.1	
05/09	52.8	51.4	52.0	53.2	53.6	53.9	55.2	56.2	57.2	50.9	49.8	49.6	49.7	2862	77	3259	49.0	46.1	50.1	
05/10	53.9	52.7	52.0	53.0	53.6	54.0	54.9	55.5	56.1	51.4	49.1	49.6	50.3	3095	77	3263	52.0	48.8	49.6	
05/11	53.5	52.1	52.2	53.0	53.8	54.5	56.1	57.1	57.3	52.7	49.2	49.8	51.1	3390	77	3504	56.0	55.1	56.7	
05/12	53.1	52.0	52.3	53.6	54.1	54.6	56.8	58.2	58.9	52.4	49.3	50.3	51.3	2737	77	3539	62.0	58.6	58.7	
05/13	54.4	52.8	52.2	53.9	54.7	55.5	57.5	59.0	59.8	53.2	49.7	50.3	51.9	3186	77	3547	64.0	62.9	63.5	
05/14	54.3	53.3	52.4	54.0	55.0	56.1	58.9	61.1	? 61.7	54.4	50.1	51.5	54.0	3304	76	3535	69.5	67.4	71.2	
05/15	54.7	? 53.1	!	54.5	55.4	56.4	59.6	62.1	? 63.3	54.7	50.5	52.8	55.3	3276	35	3517	74.0	70.9	74.0	
05/16	54.9	? 53.3	!	55.2	56.0	57.0	60.0	62.6	63.6	54.6	50.8	53.7	55.7	3346	38	3525	69.0	68.5	68.8	
05/17	53.8	53.1	52.7	55.6	56.5	57.7	60.5	? 62.9	? 64.0	54.9	51.3	54.9	56.6	3245	0	3514	73.0	70.1	73.5	
05/18	52.8	50.1	52.7	55.8	56.8	58.2	61.5	63.9	65.0	55.2	51.5	56.4	58.2	3012	73	3552	82.0	73.9	79.0	
05/19	52.1	50.9	52.8	55.7	56.7	58.1	? 61.7	64.3	65.6	55.0	51.4	57.6	58.2	3188	73	3550	77.5	71.2	75.4	
05/20	53.7	50.7	52.8	56.2	56.9	57.3	58.9	60.8	? 62.6	54.0	51.8	56.6	56.8	2698	73	3551	68.5	65.7	67.1	
05/21	53.4	52.2	53.0	54.3	55.7	57.2	60.4	61.8	? 62.2	54.5	52.4	56.4	57.4	3478	74	3569	75.0	66.6	71.8	
05/22	53.2	50.2	53.0	54.4	55.5	56.6	59.9	62.7	64.1	55.0	52.2	57.3	58.7	3007	73	3541	75.5	69.4	74.5	
05/23	54.9	!	53.2	54.7	55.9	57.1	60.4	62.9	64.2	55.3	52.2	57.9	59.5	3515	73	3550	80.5	75.1	79.0	
05/24	53.7	51.2	53.1	54.6	55.9	57.2	60.9	63.6	? 64.9	55.5	52.3	58.9	60.4	3904	73	3761	82.5	78.6	81.8	
05/25	54.8	52.0	53.4	55.0	56.3	57.7	61.4	64.5	? 66.2	55.9	52.6	59.1	61.1	3820	73	3765	↑ 86.5	82.5	83.3	
05/26	55.0	52.9	53.4	55.0	55.7	56.7	60.4	63.9	? 65.8	54.7	52.6	57.8	60.1	2702	73	3760	75.5	72.5	73.4	
05/27	54.3	50.7	53.4	55.4	56.0	56.7	59.3	61.7	? 63.8	54.5	52.6	56.0	58.0	3518	73	3770	72.0	69.0	68.3	
05/28	52.8	50.2	53.4	55.2	55.9	56.7	59.2	61.4	62.7	54.3	52.2	54.6	56.5	3055	75	3777	67.0	65.2	67.1	
05/29	53.2	52.1	53.1	54.9	55.9	56.8	58.9	60.6	? 61.9	54.7	52.1	55.3	55.8	4098	115	3767	64.0	62.6	66.0	
05/30	52.3	50.3	53.5	54.4	55.4	56.3	59.3	61.4	62.2	54.9	52.0	56.5	58.0	2853	92	3733	69.0	67.6	68.2	
05/31	52.0	49.9	53.6	54.7	55.7	56.7	59.4	61.6	62.8	55.3	52.4	57.1	59.2	3598	74	3688	75.5	71.1	72.1	
May	53.5	51.7	52.6	54.5	55.3	56.2	58.8	60.8	61.9	53.9	51.0	53.8	55.3	3172	75	3504	68.5	65.5	67.7	
														Total CFS	98323	2322	108635			
														Total AF	195020	4606	215473			

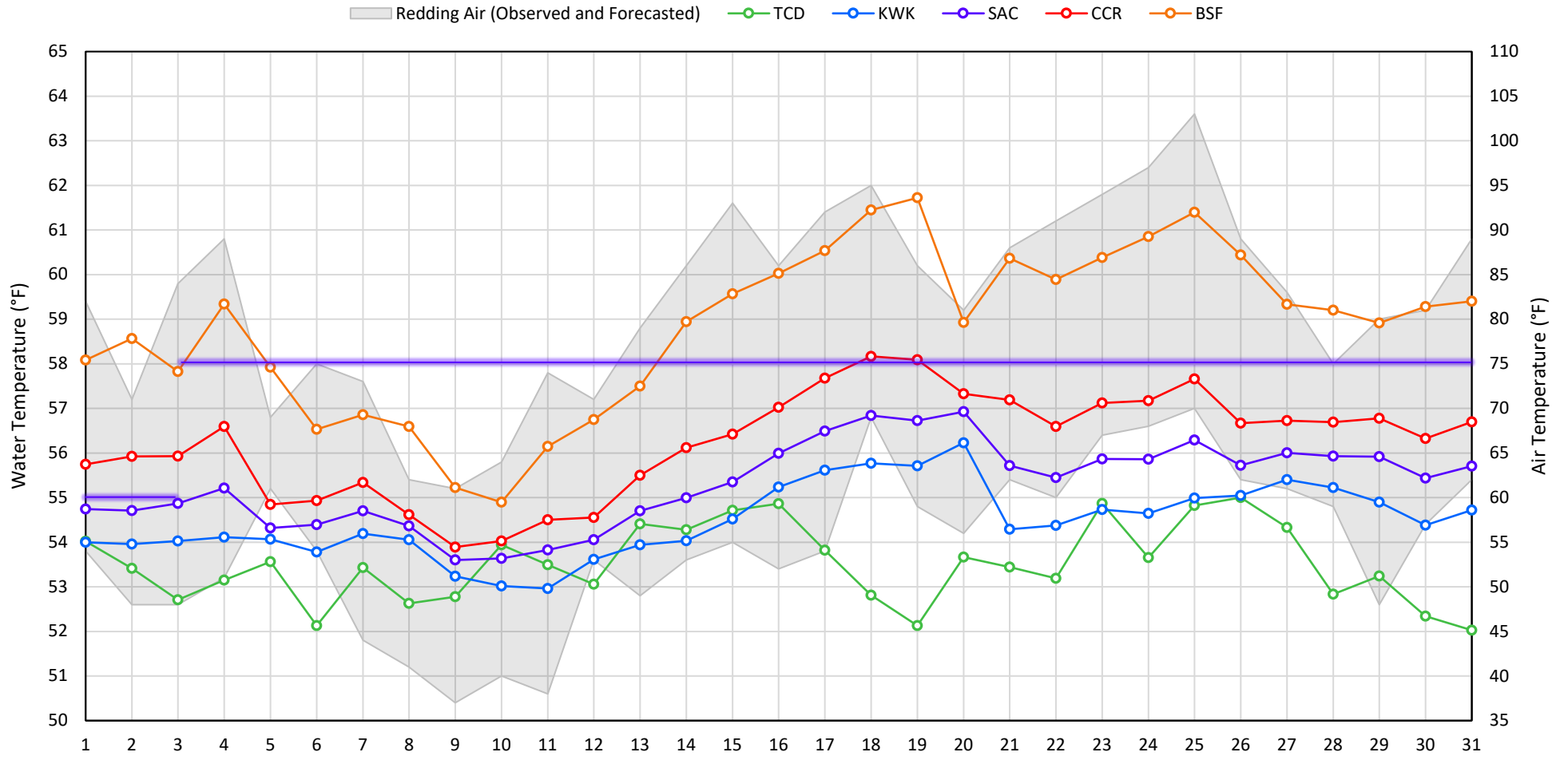
Legend

Notes

- ? = 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

- ¹ 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
- ² Current Sacramento River control point (see page 4 for more details)

Sacramento River Mean Daily Temperatures



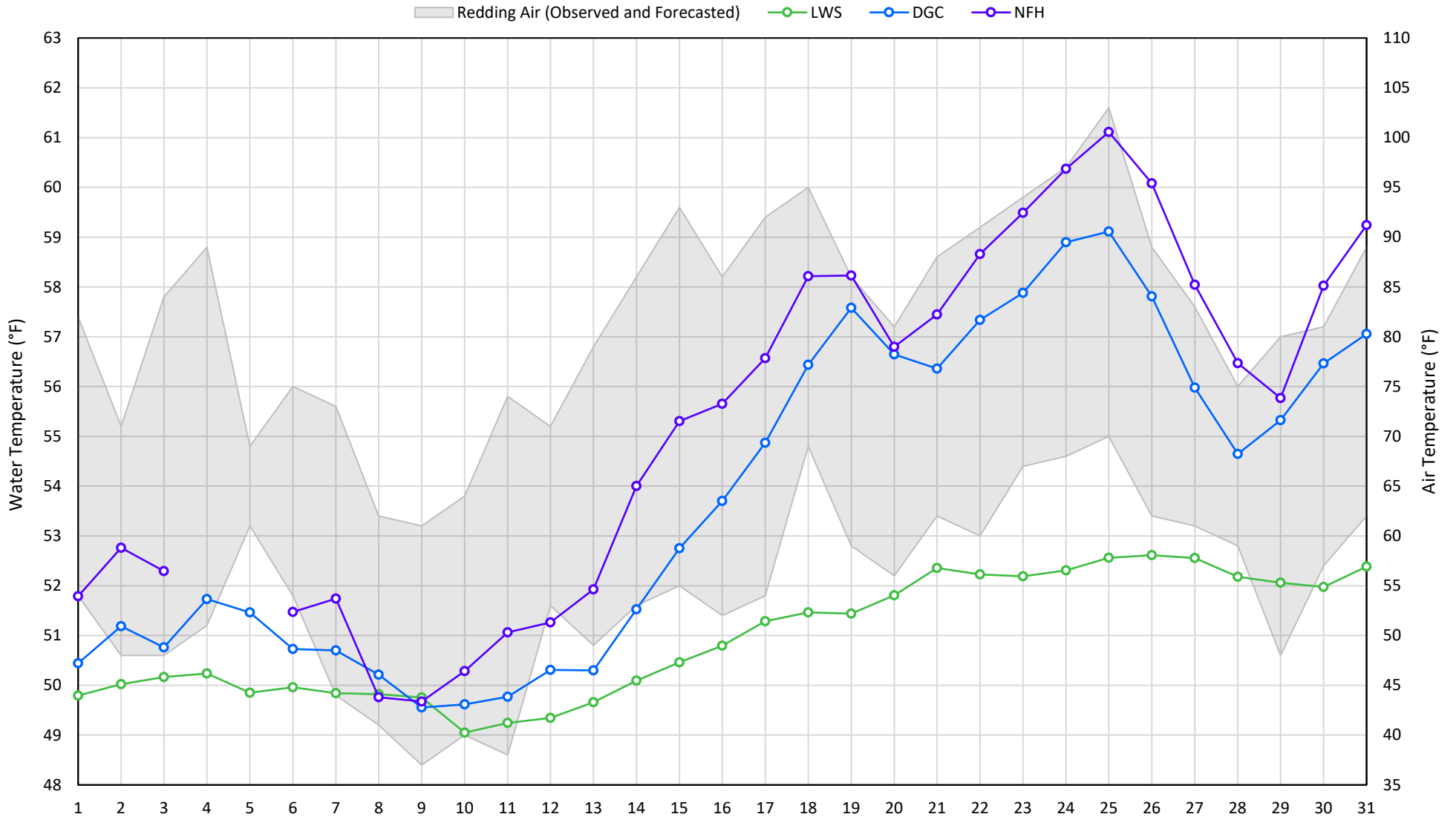
Station Details			
Code	Body of Water	Location ¹	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	Click Here
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	Click Here
SAC	Sacramento River	4.8 miles 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

Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	SAC	55	06/15/2021	05/02/2022
Sacramento	SAC	58	05/02/2022	TBD

Notes

¹ Distances are approximate

Trinity River Mean Daily Temperatures



Station Details

Code	Body of Water	Location ¹	CDEC Link
LWS	Trinity River	1.1 miles downstream of Lewiston Dam	Click Here
DGC	Trinity River	19 miles downstream of Lewiston Dam	Click Here
NFH	Trinity River	38 miles downstream of Lewiston Dam	Click Here

Water Right Temperature Control Points

River	Point	Temp. (°F)	Begin Date	End Date
Trinity	DGC	56	Sep-15	Oct-01
Trinity	NFH	56	Oct-01	Dec-31

Notes

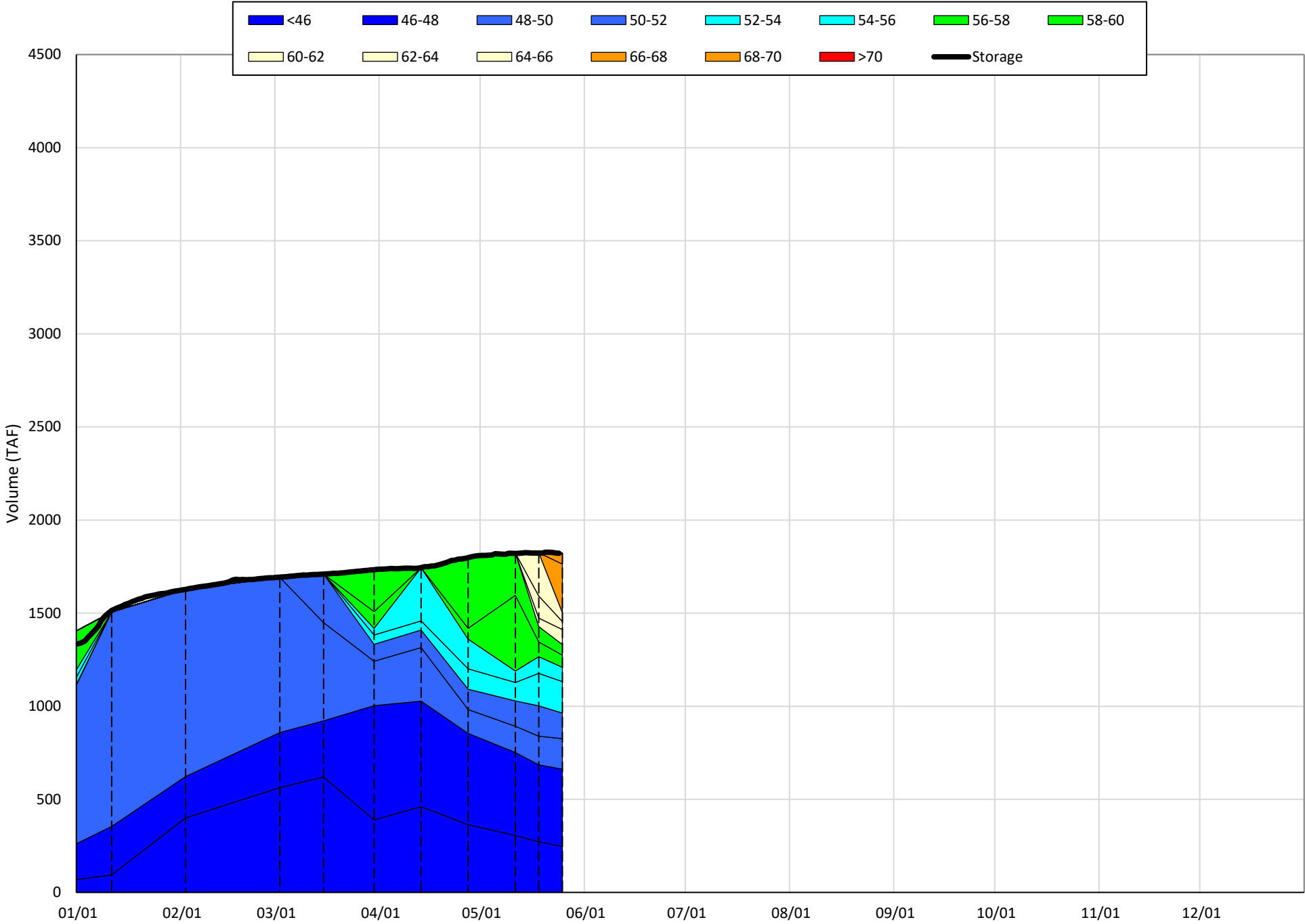
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

2022

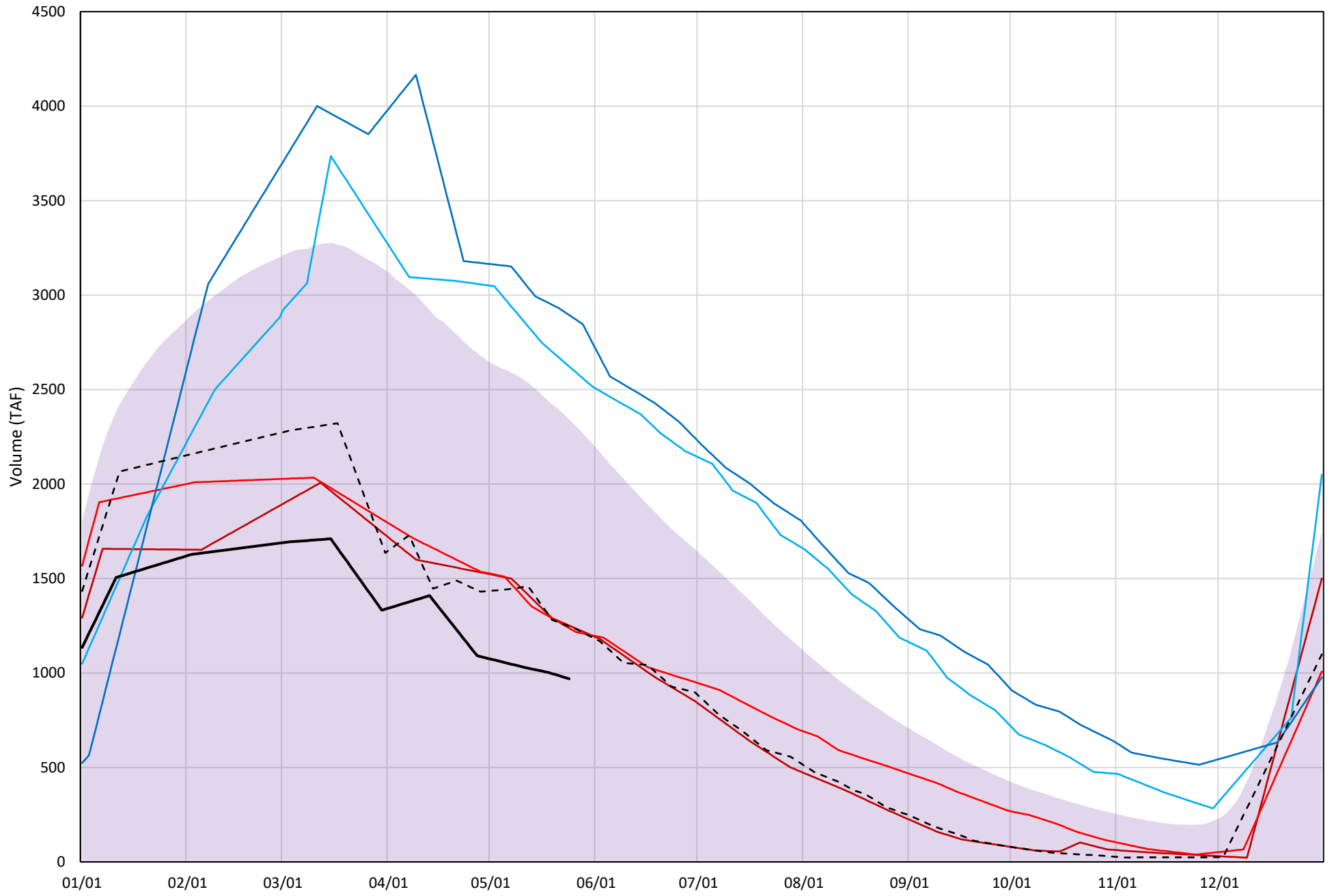
Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
8	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
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10	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances
11	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances
12	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances
13	- Shasta Lake Cold Water Pool Comparison by Year

Shasta Lake Isothermobaths Plot - 2022



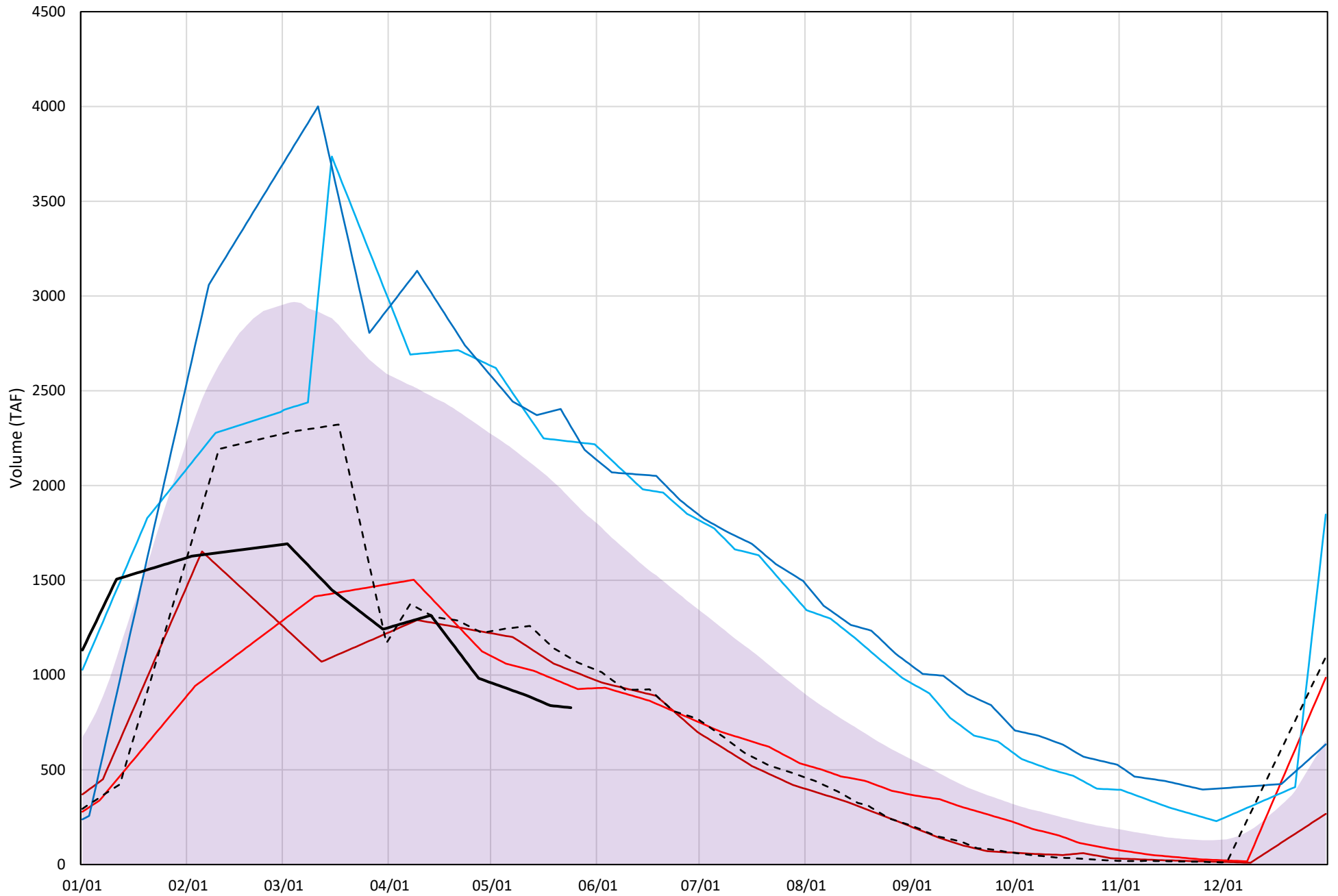
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$

Avg (1998-2021) 2014 2015 2016 2019 2021 2022



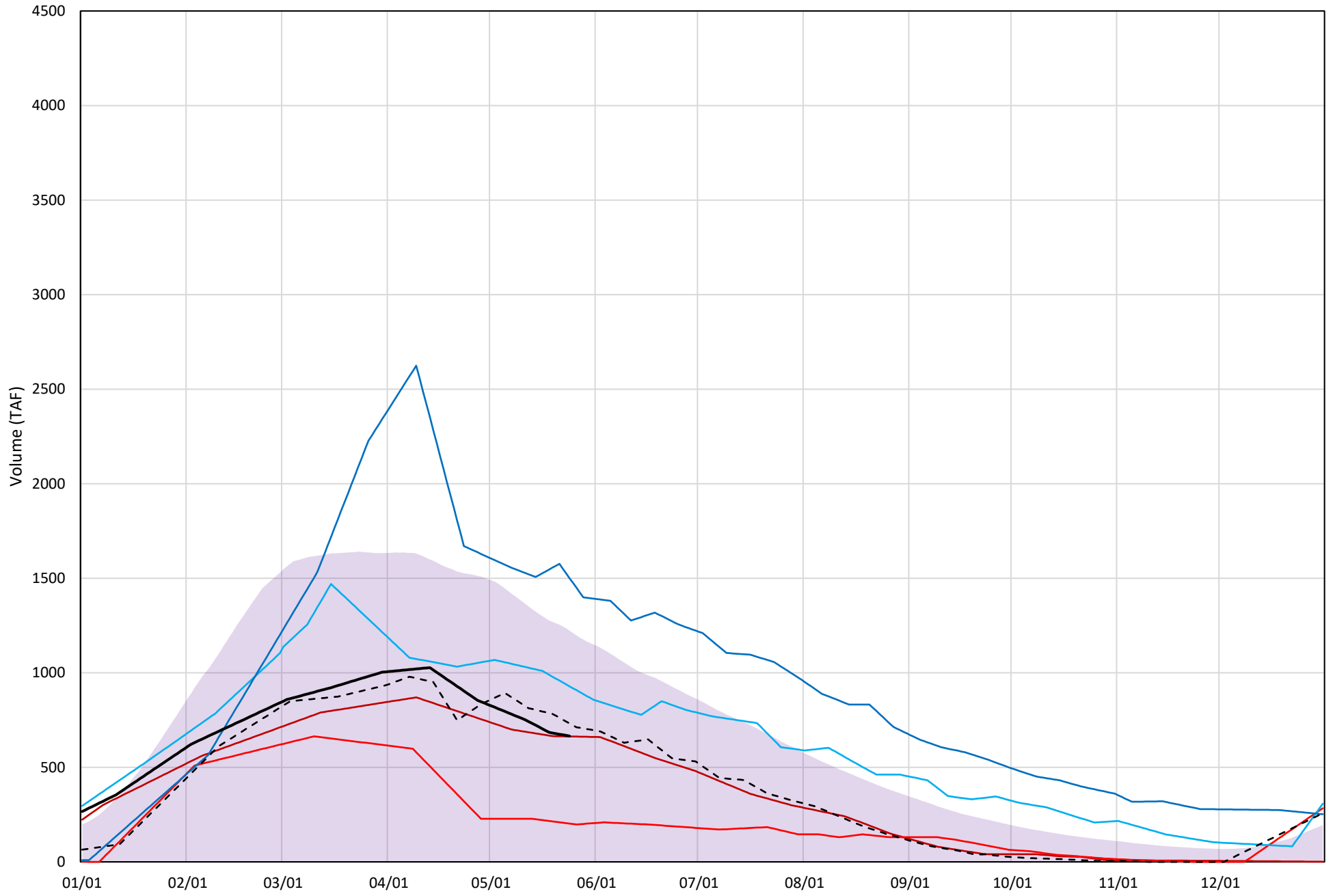
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$

Avg (1998-2021) 2014 2015 2016 2019 2021 2022



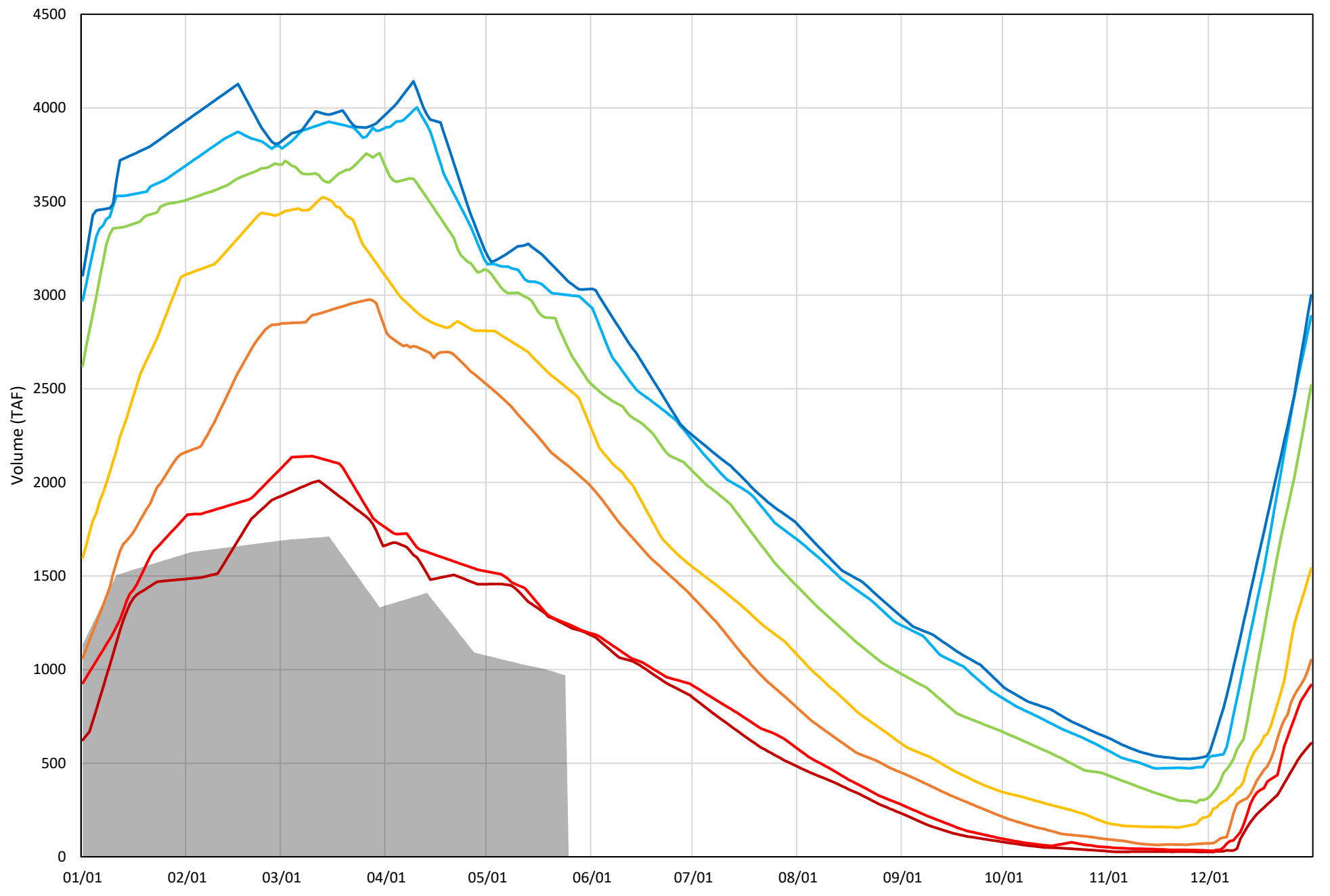
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (1998-2021) 2014 2015 2016 2019 2021 2022



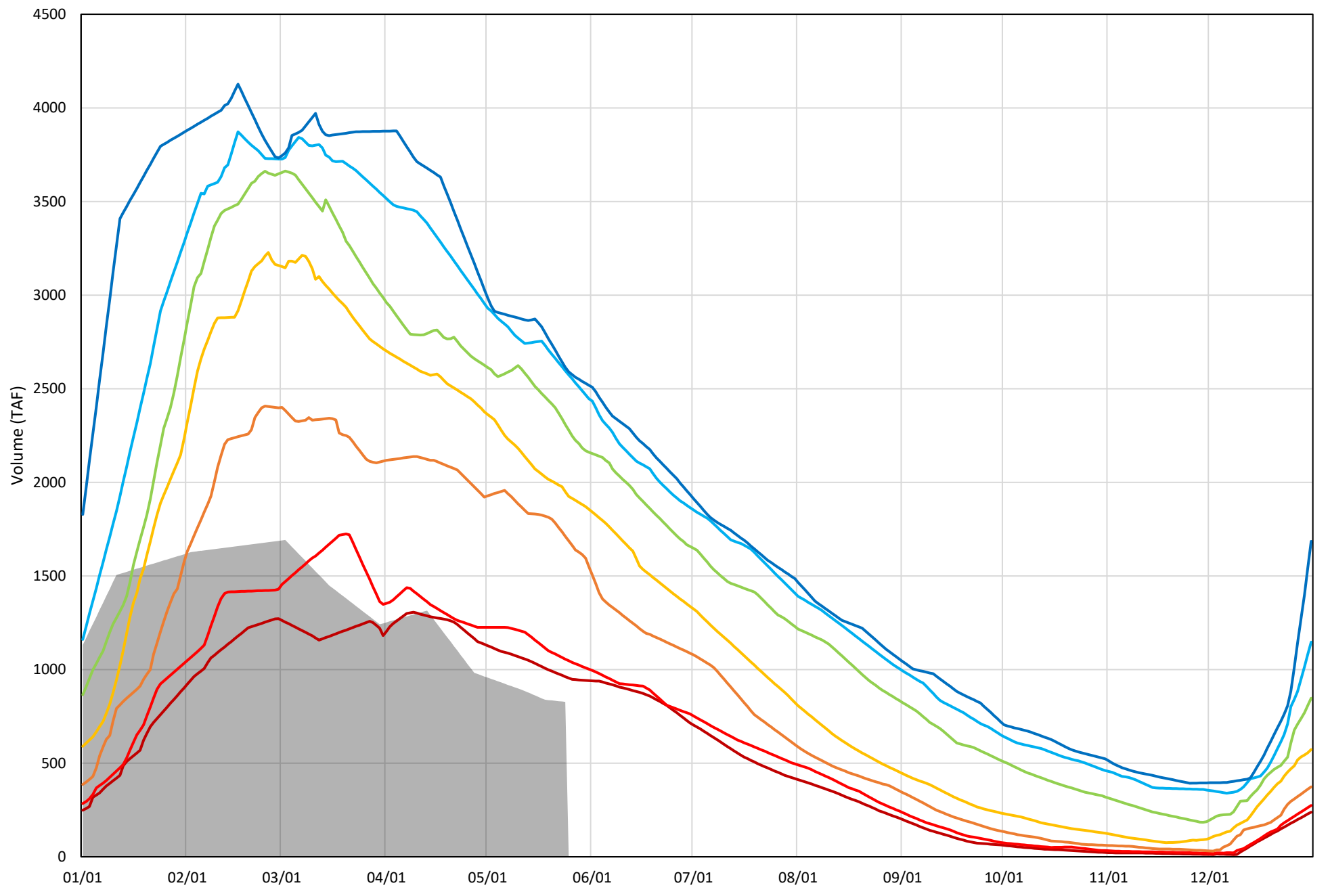
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2021)

2022 95 90 75 50 25 10 5



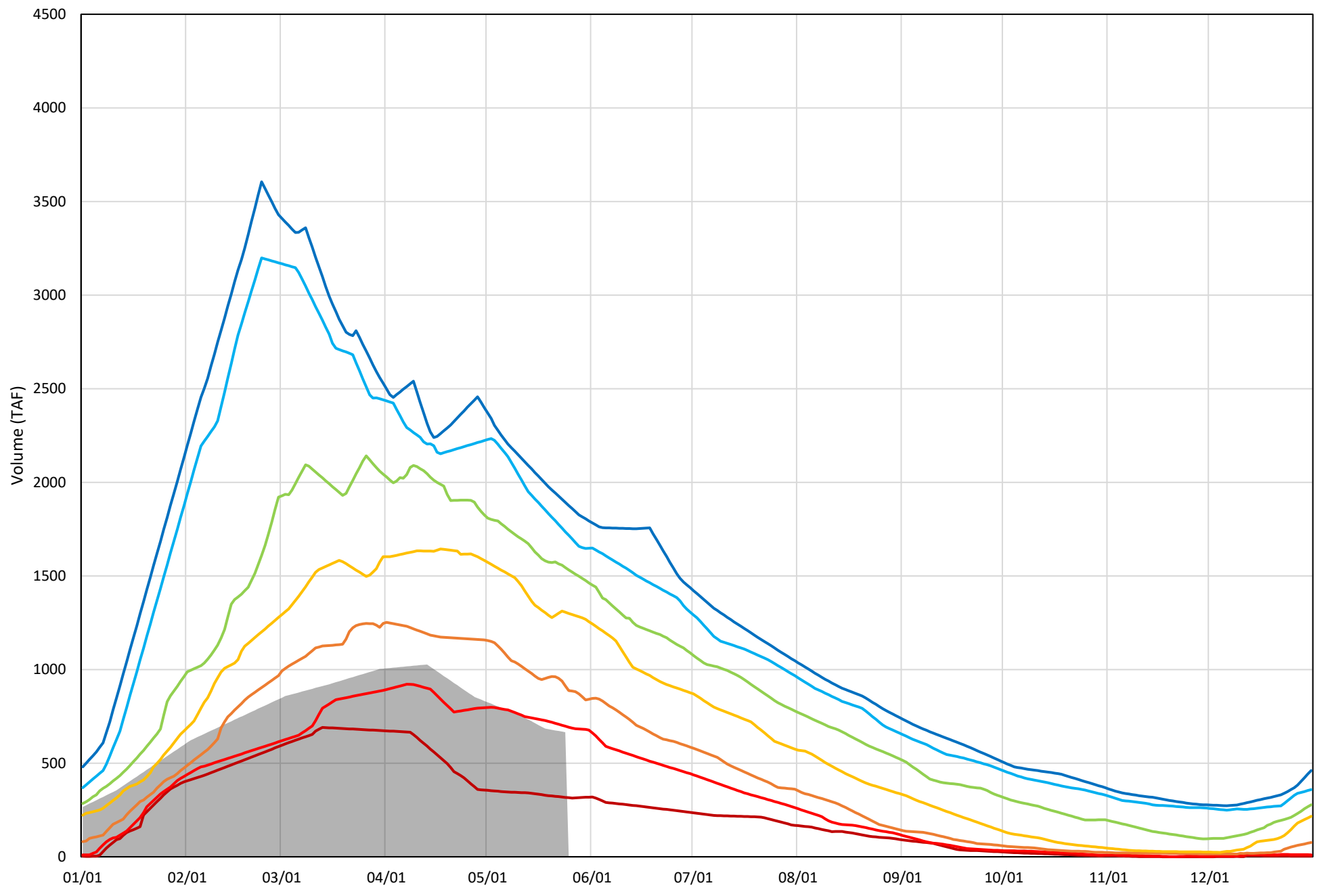
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2021)

2022 95 90 75 50 25 10 5



Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances (1998-2021)

2022 95 90 75 50 25 10 5



Shasta Lake Cold Water Pool Comparison by Year (for Specified Date)

May-25 2022	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	2145	1743	999	1629	221	211	150	194
1999	1626	1476	1143	1415	168	178	172	173
2000	1512	963	343	939	156	116	52	108
2001	1240	1133	832	1068	128	137	125	130
2002	1572	1362	894	1276	162	165	134	154
2003	1739	1110	243	1031	179	134	36	117
2004	1189	976	629	932	123	118	95	112
2005	1396	901	210	836	144	109	32	95
2006	1649	1491	822	1321	170	180	124	158
2007	1249	1134	767	1050	129	137	115	127
2008	653	580	487	573	67	70	73	70
2009	777	561	446	595	80	68	67	72
2010	2042	1792	901	1578	211	217	135	188
2011	2024	1772	1256	1684	209	214	189	204
2012	1904	1764	961	1543	196	213	144	185
2013	1110	1041	727	959	115	126	109	117
2014	281	197	-2	160	29	24	0	18
2015	267	114	-463	281	28	14	-70	37
2016	1653	1404	263	1107	171	170	40	127
2017	1793	1083	653	1176	185	131	98	138
2018	1636	1193	279	1036	169	144	42	118
2019	1925	1484	835	1414	199	179	125	168
2020	1283	878	86	749	132	106	13	84
2021	277	260	67	201	29	31	10	23
2022	0	0	0	0	0	0	0	0

Historic - Current

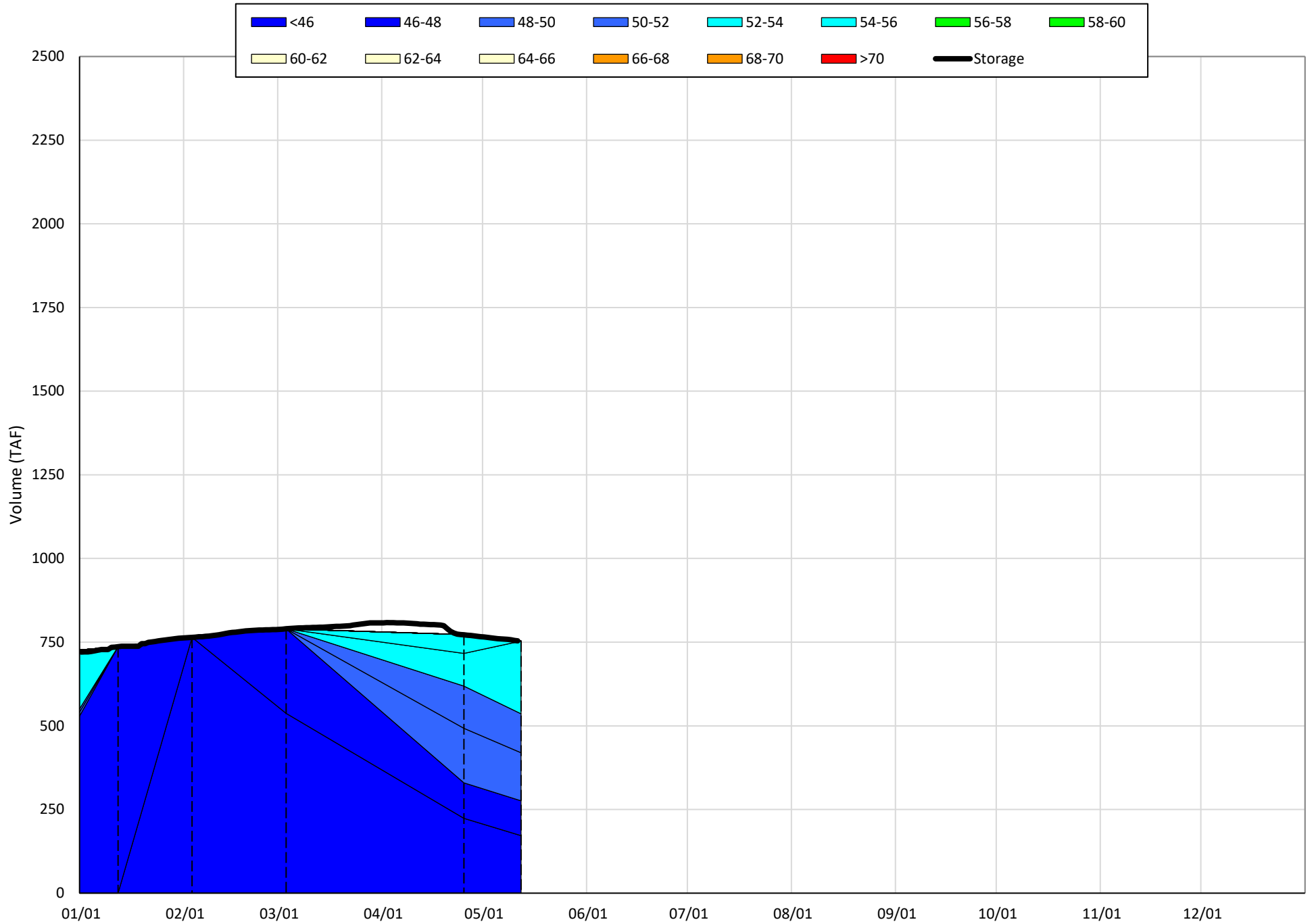
(Historic - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2022

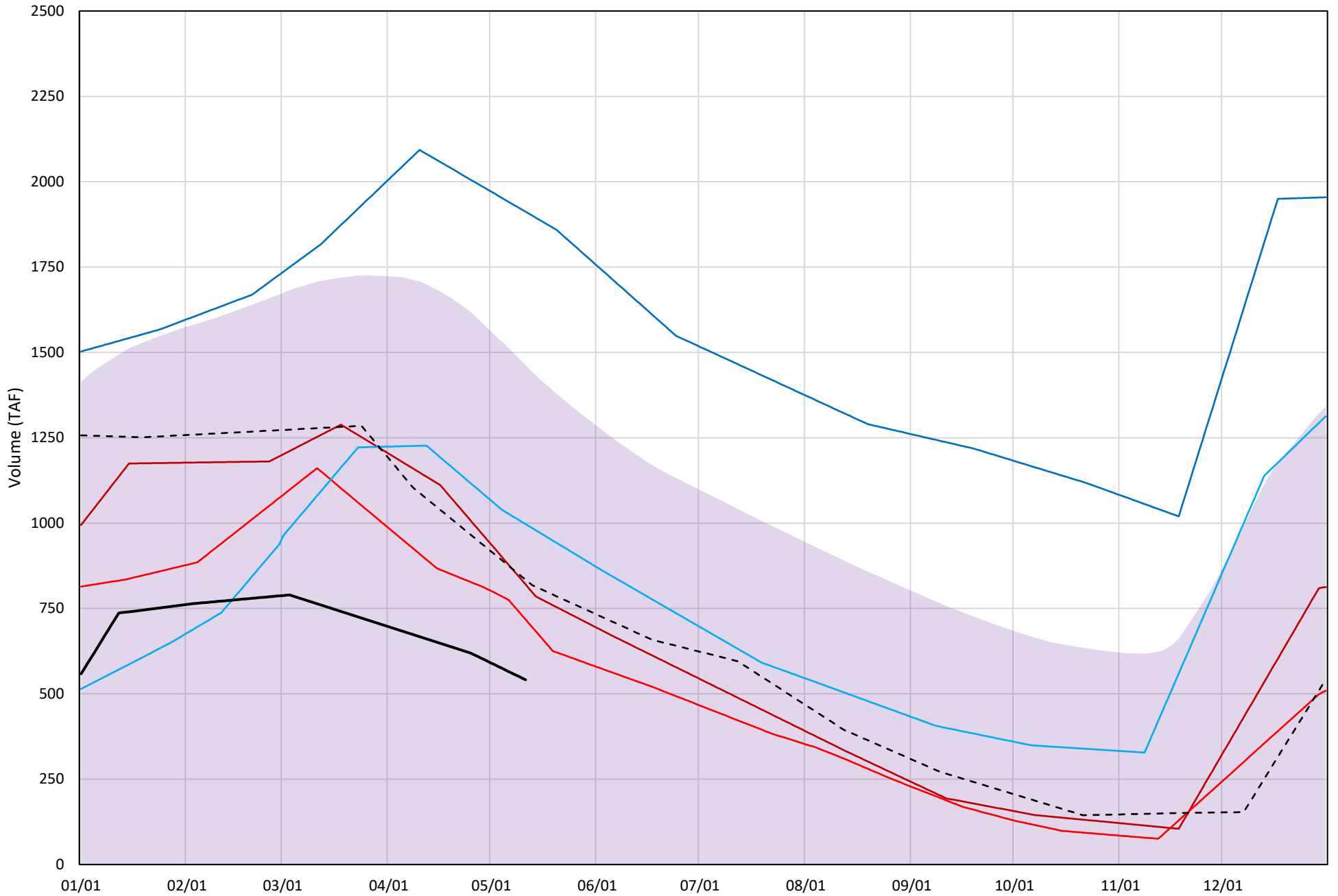
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances
20	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances
21	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances
22	- Trinity Lake Cold Water Pool Comparison by Year

Trinity Lake Isothermobaths Plot - 2022



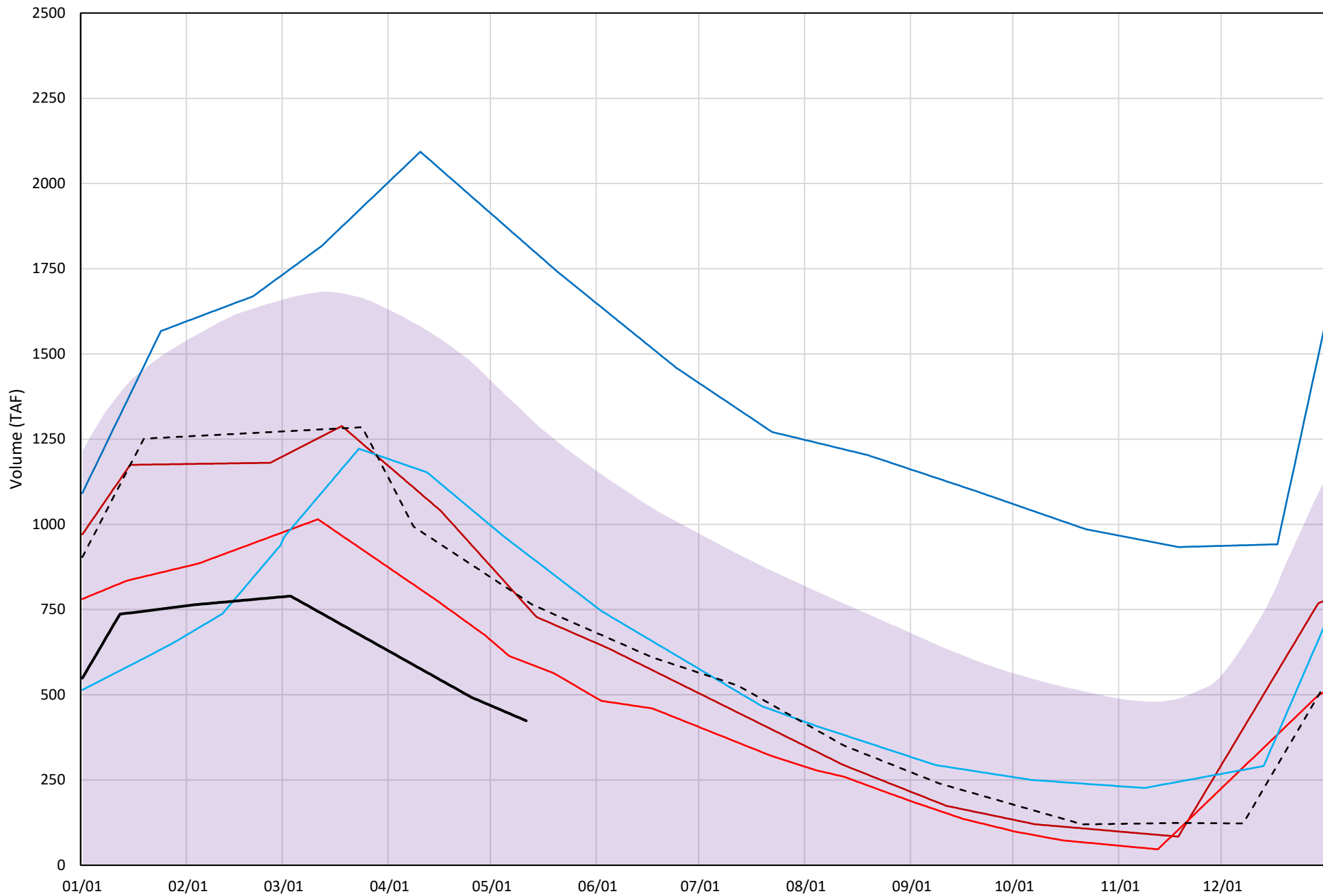
Trinity Lake Cold Water Pool Volume ≤52°F

Avg (2000-2021) 2014 2015 2016 2019 2021 2022



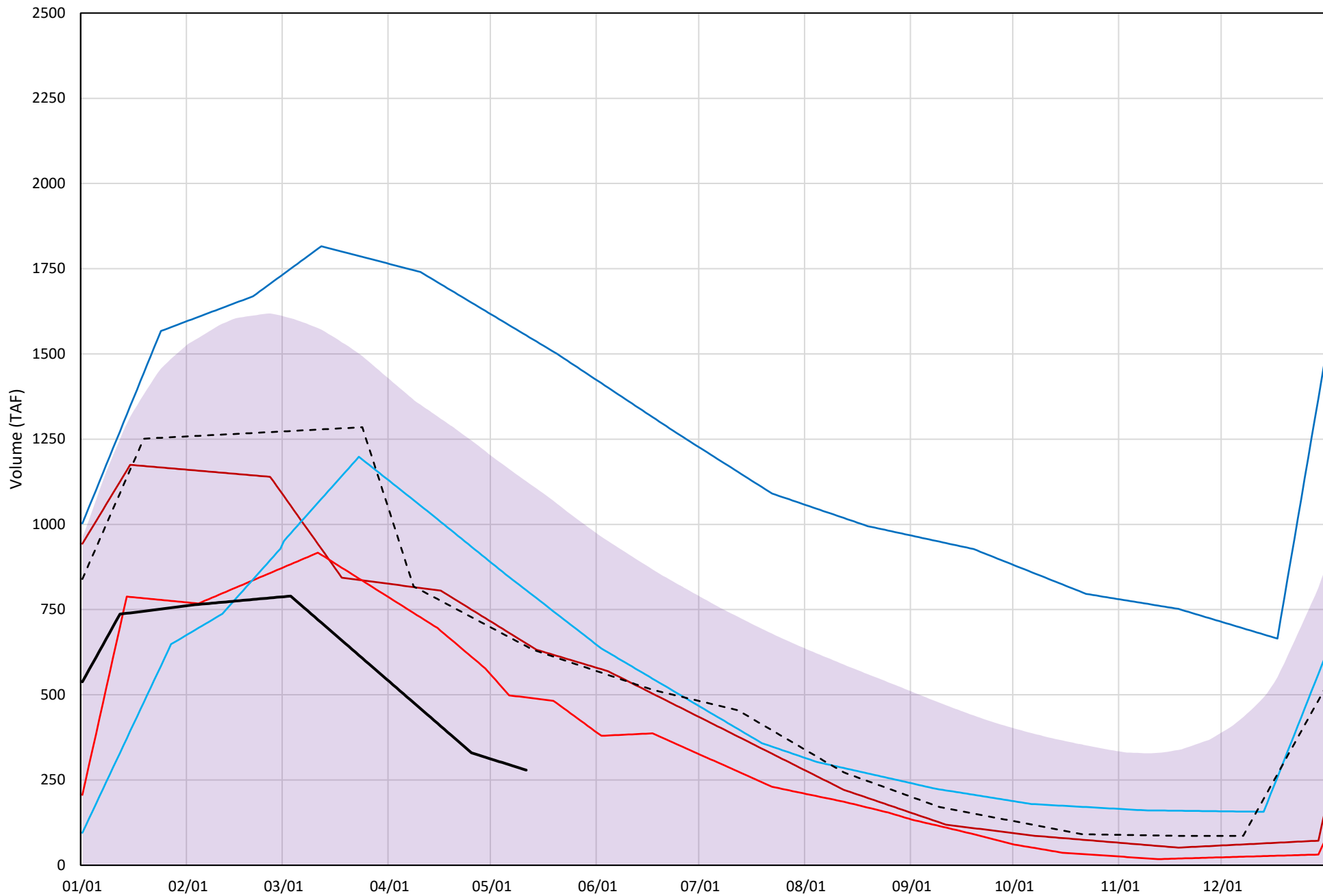
Trinity Lake Cold Water Pool Volume ≤50°F

Avg (2000-2021) 2014 2015 2016 2019 2021 2022

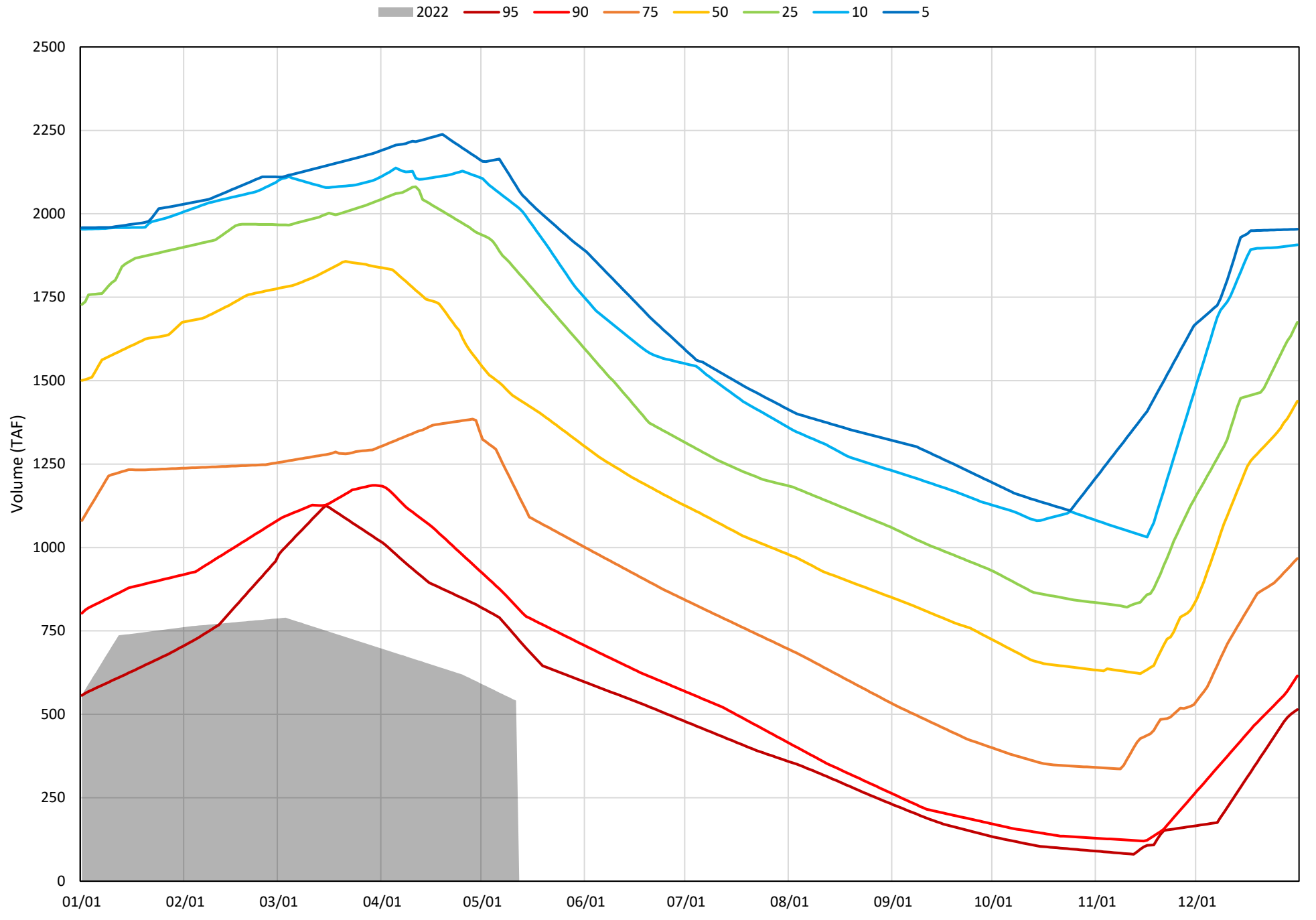


Trinity Lake Cold Water Pool Volume ≤48°F

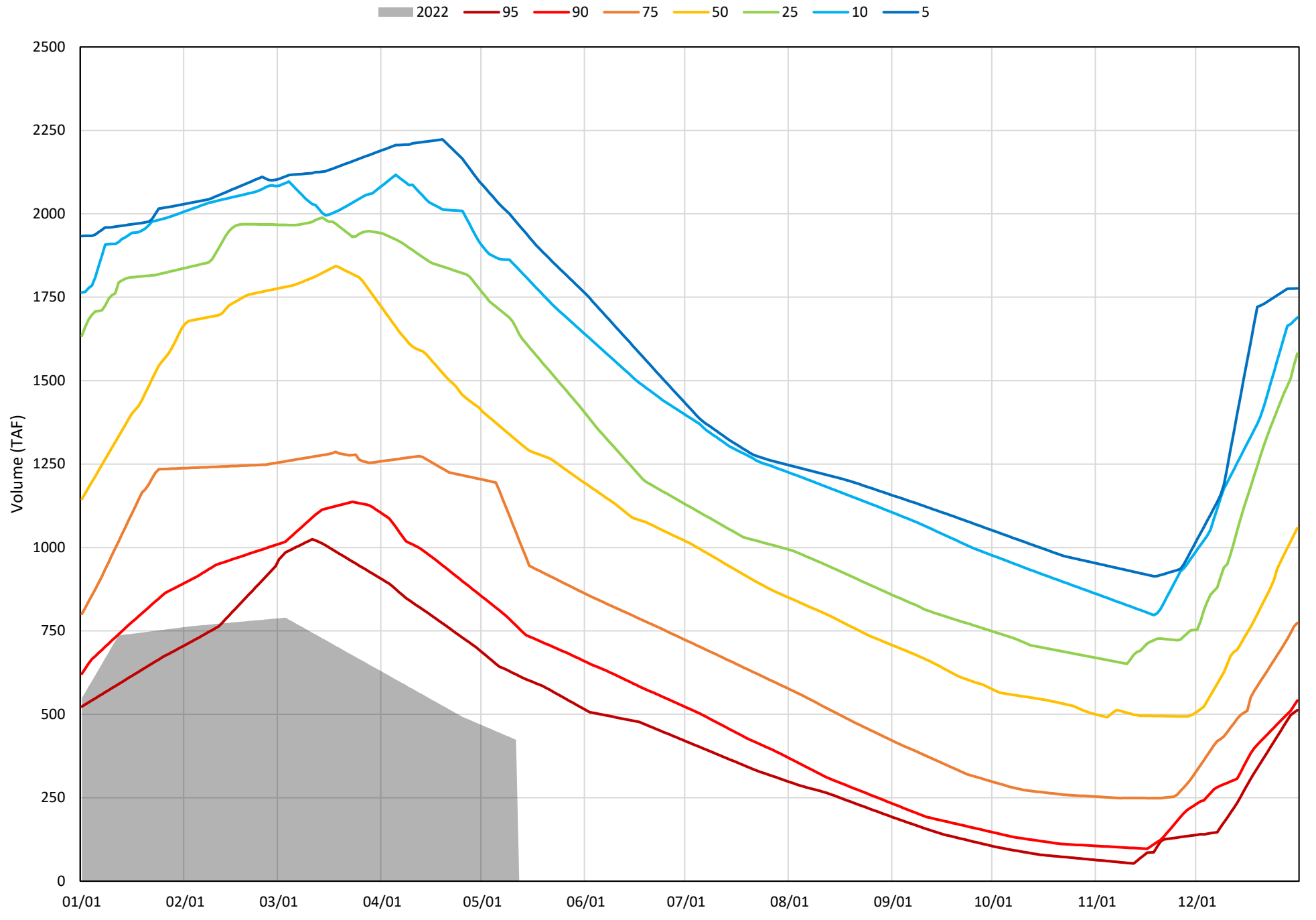
Avg (2000-2021) 2014 2015 2016 2019 2021 2022



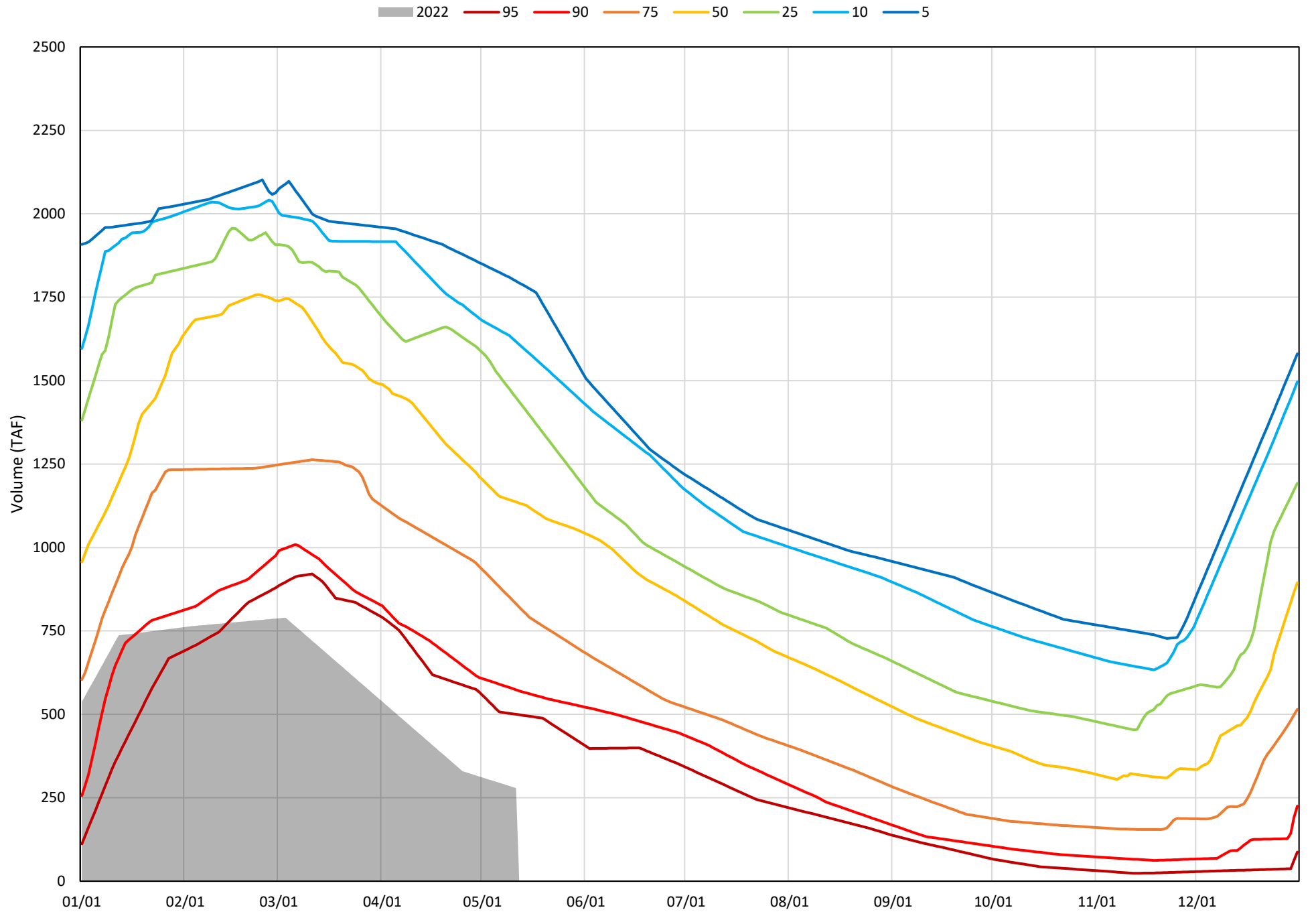
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2021)



Trinity Lake Cold Water Pool Volume ≤50°F - Percent Exceedances (2000-2021)



Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances (2000-2021)



Trinity Cold Water Pool Comparison by Year (for Specified Date)

May-12 2022	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	1240	1230	1138	1203	229	290	408	309
2001	905	921	857	894	167	217	307	231
2002	911	912	942	922	168	215	338	240
2003	1545	1213	1164	1308	286	286	417	330
2004	1177	1101	1013	1097	218	260	363	280
2005	1049	849	641	846	194	200	230	208
2006	1531	1575	1547	1551	283	372	554	403
2007	875	794	819	829	162	187	293	214
2008	689	665	560	638	127	157	201	162
2009	439	407	265	370	81	96	95	91
2010	797	780	603	727	147	184	216	182
2011	1298	1249	1245	1264	240	295	446	327
2012	1338	1427	1365	1377	247	337	489	358
2013	800	825	772	799	148	195	277	206
2014	279	338	372	330	52	80	133	88
2015	177	171	213	187	33	40	76	50
2016	456	491	528	491	84	116	189	130
2017	1289	1252	1189	1243	238	295	426	320
2018	921	932	908	920	170	220	325	238
2019	1371	1397	1275	1348	253	330	457	347
2020	893	886	858	879	165	209	307	227
2021	293	353	364	336	54	83	130	89
2022	0	0	0	0	0	0	0	0

Historic - Current

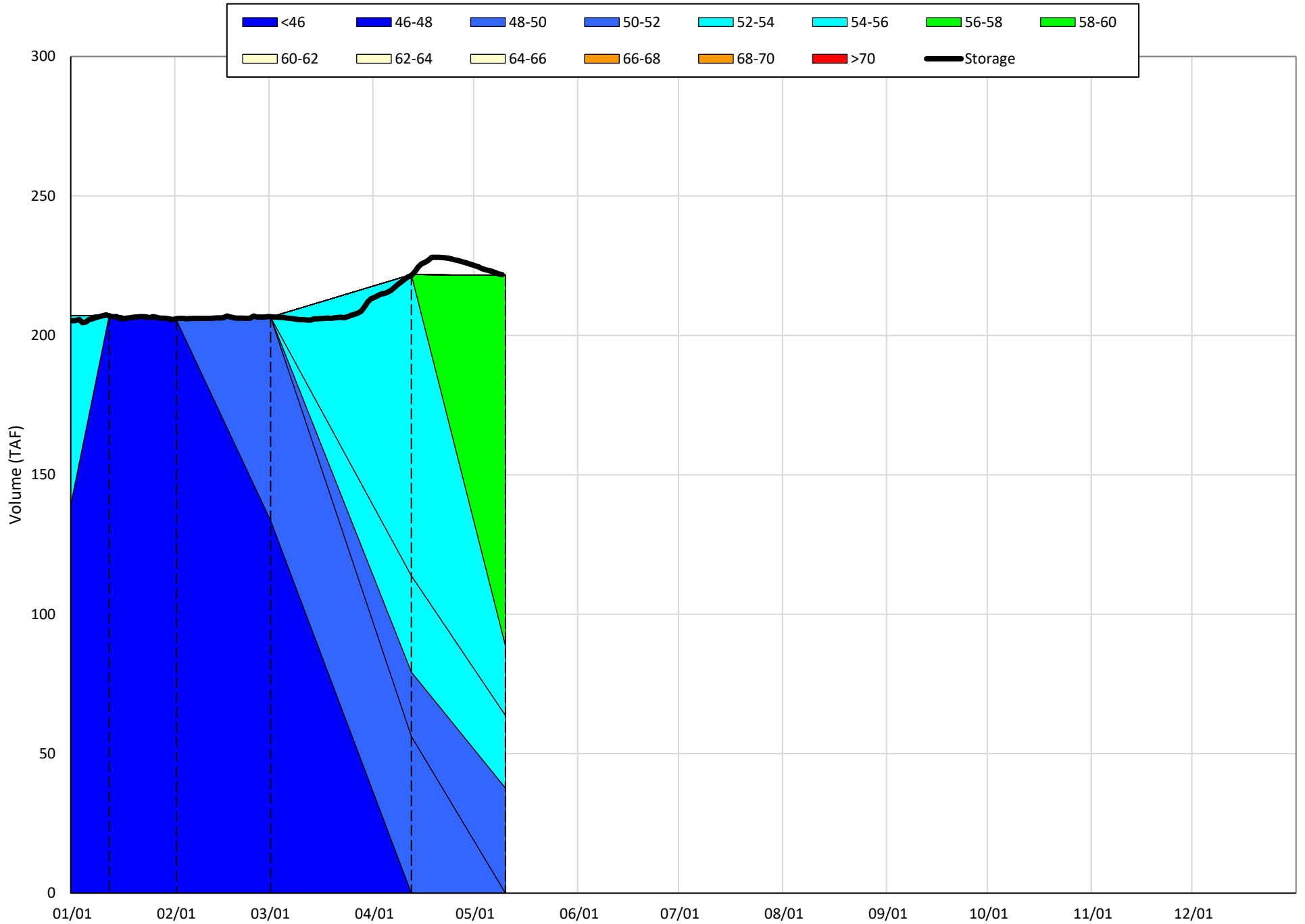
(Historic - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

2022

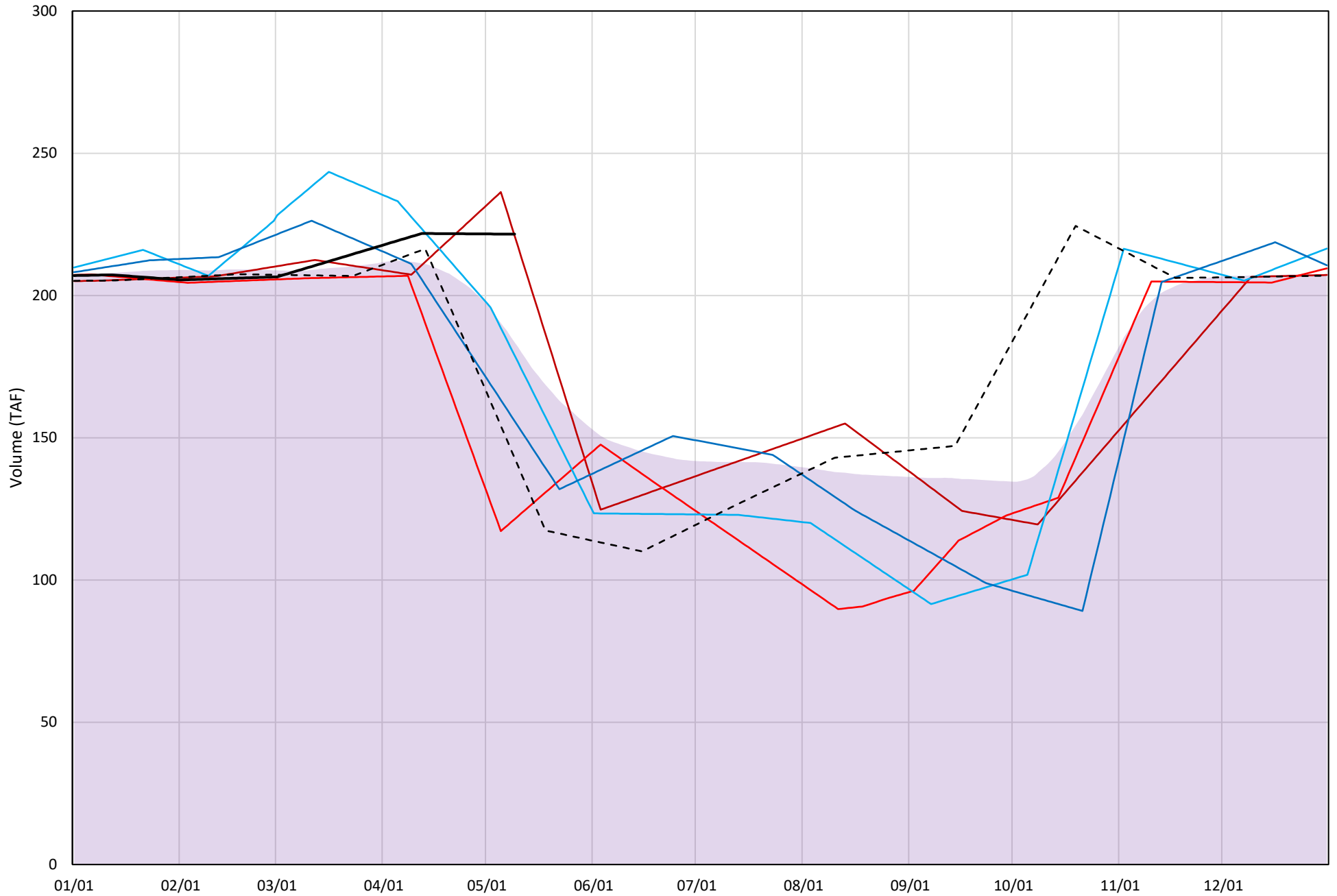
Page	Description
24	- Whiskeytown Lake Isothermobaths Plot
25	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$
26	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$
27	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$
28	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances
29	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances
30	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$ - Percent Exceedances
31	- Whiskeytown Lake Cold Water Pool Comparison by Year

Whiskeytown Lake Isothermobaths Plot - 2022



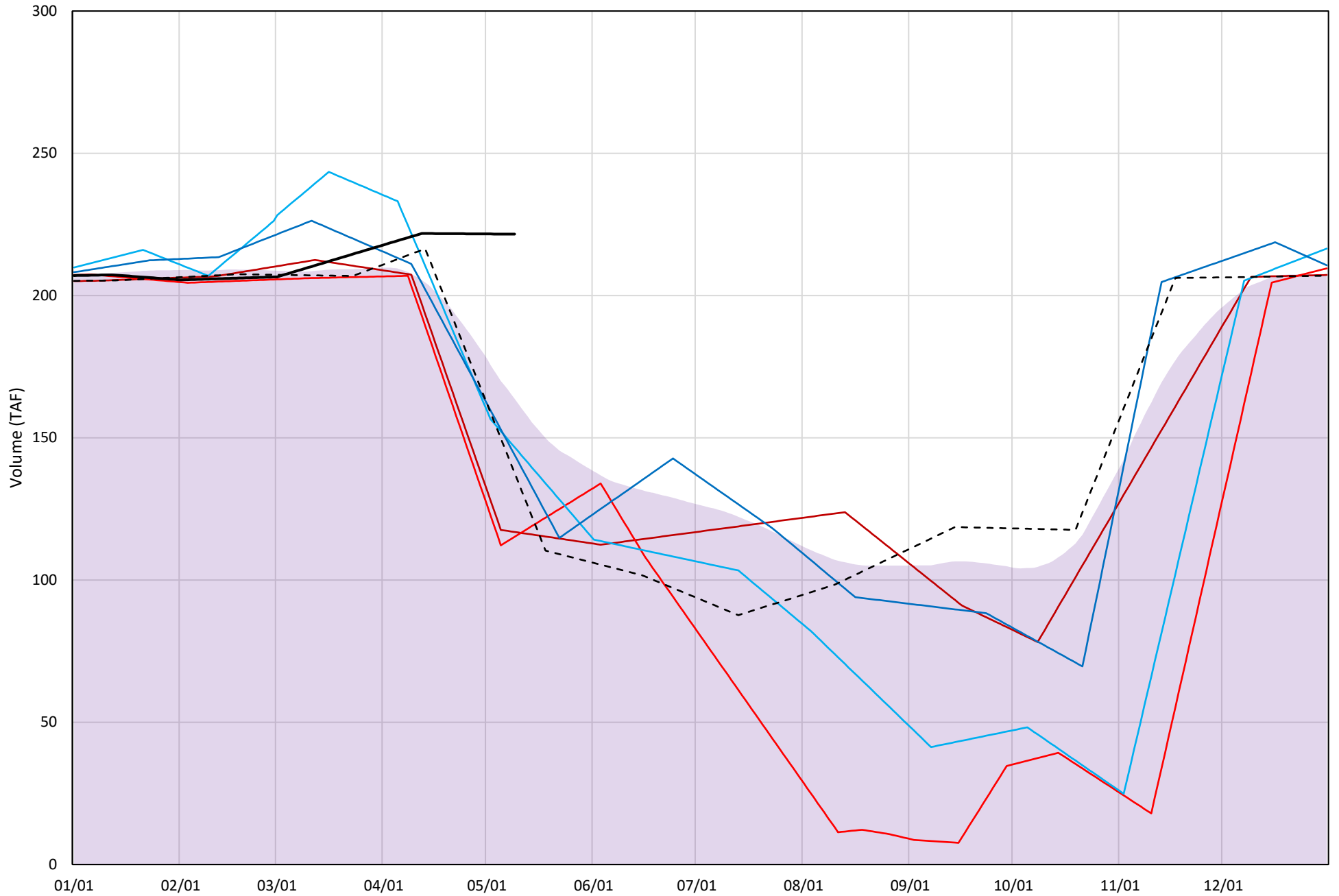
Whiskeytown Lake Cold Water Pool Volume $\leq 60^\circ\text{F}$

Avg (2000-2021) 2014 2015 2016 2019 2021 2022



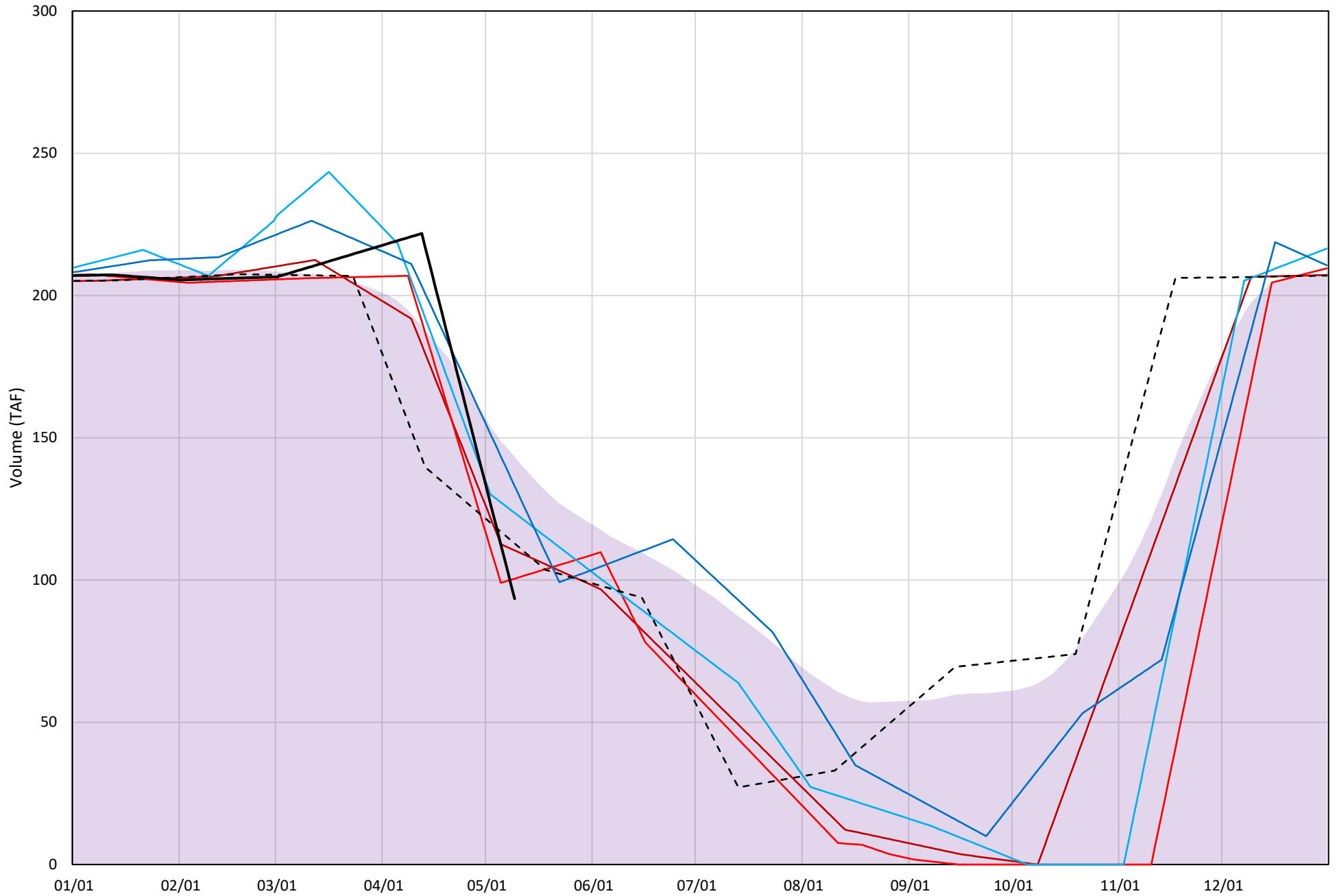
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

Avg (2000-2021) 2014 2015 2016 2019 2021 2022



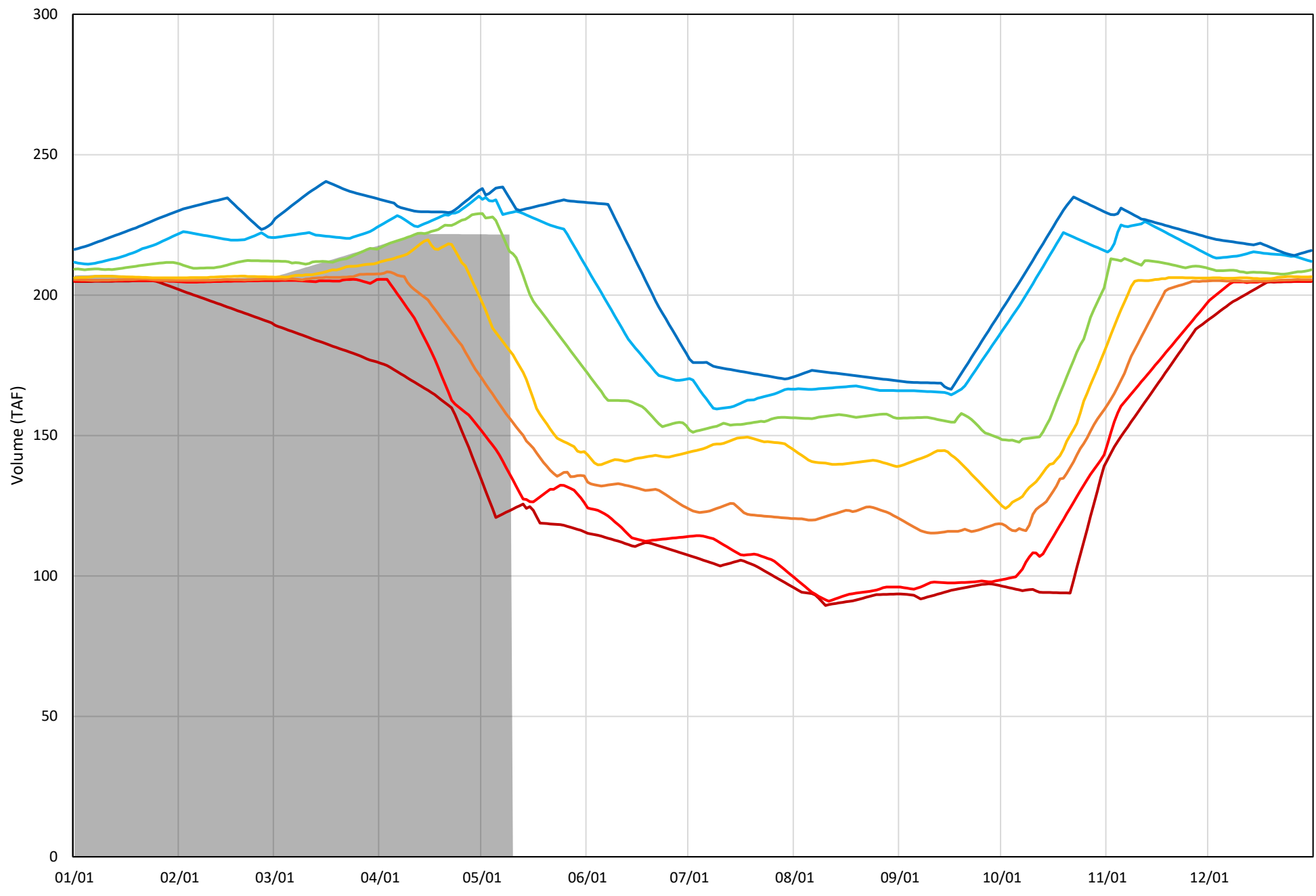
Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$

Avg (2000-2021) 2014 2015 2016 2019 2021 2022

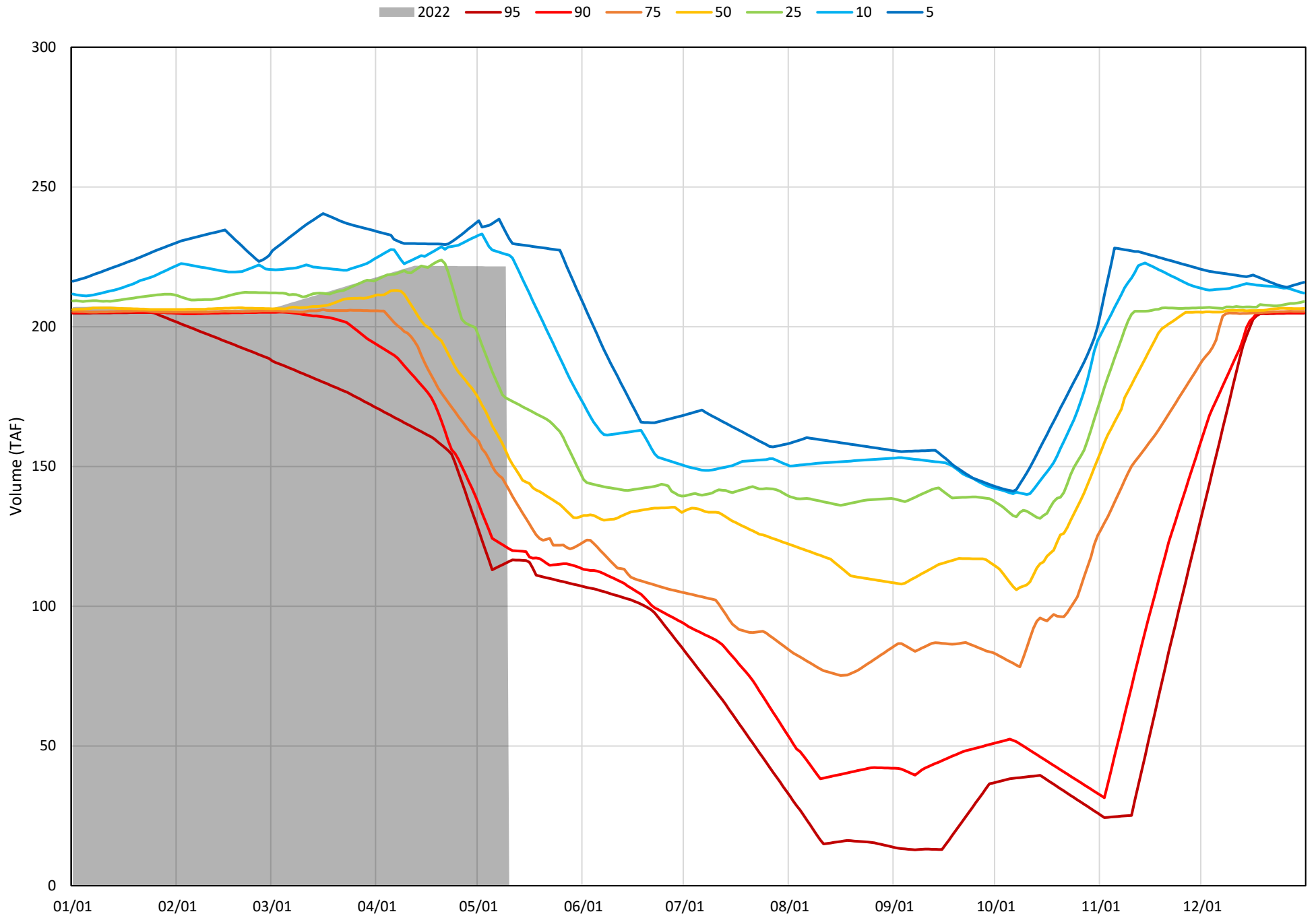


Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2021)

2022 95 90 75 50 25 10 5

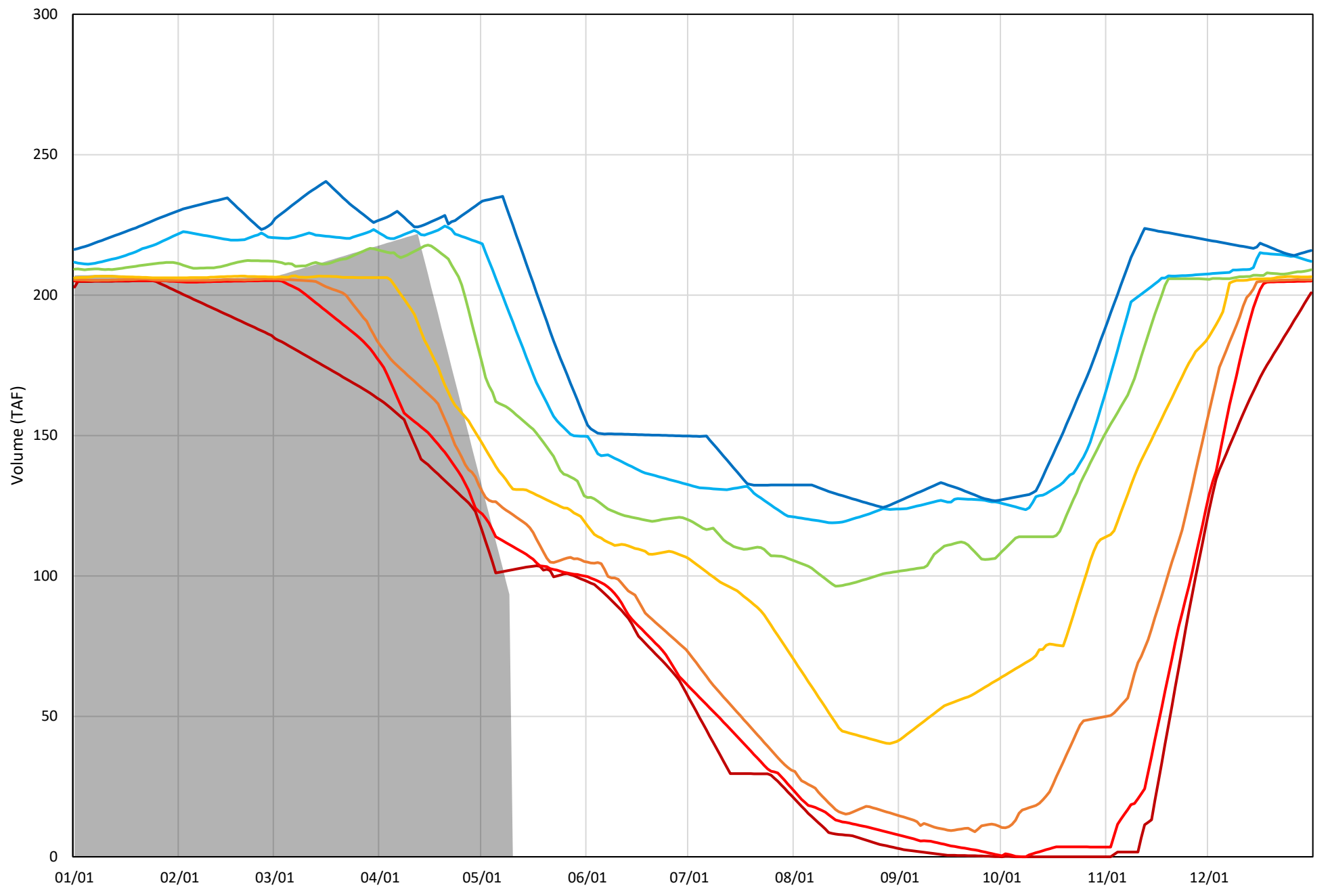


Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2021)



Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$ - Percent Exceedances (2000-2021)

2022 95 90 75 50 25 10 5



Whiskeytown Cold Water Pool Comparison by Year (for Specified Date)

May-10 2022	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	-7.2	-67.9	24.3	33.1	-3.3	-30.6	26.0	20.0
2001	-26.1	-52.4	26.4	35.0	-11.8	-23.7	28.2	21.2
2002	-26.3	-69.8	38.6	44.9	-11.9	-31.5	41.3	28.2
2003	13.9	13.0	139.9	55.6	6.3	5.9	149.8	54.0
2004	-55.5	-64.1	51.2	56.9	-25.0	-28.9	54.8	36.2
2005	-59.1	-63.0	61.1	61.0	-26.7	-28.4	65.4	40.1
2006	-15.9	-37.4	66.5	39.9	-7.2	-16.9	71.2	31.7
2007	-39.8	-59.1	47.3	48.7	-18.0	-26.7	50.6	31.8
2008	-7.3	-8.3	106.6	40.7	-3.3	-3.7	114.1	40.4
2009	-65.2	-78.8	37.4	60.5	-29.4	-35.6	40.0	35.0
2010	7.7	7.7	84.5	33.3	3.5	3.5	90.5	32.5
2011	7.7	-3.4	85.0	32.1	3.5	-1.5	91.0	32.0
2012	-70.5	-75.8	41.7	62.7	-31.8	-34.2	44.6	36.9
2013	-87.9	-90.0	35.1	71.0	-39.7	-40.6	37.5	39.3
2014	-0.6	-104.7	17.0	40.8	-0.3	-47.2	18.2	21.9
2015	-100.2	-106.4	7.1	71.2	-45.2	-48.0	7.6	33.6
2016	-42.7	-74.9	30.2	49.2	-19.3	-33.8	32.3	28.5
2017	-2.3	-50.2	36.0	29.5	-1.0	-22.7	38.6	20.8
2018	-54.2	-57.2	65.9	59.1	-24.4	-25.8	70.6	40.3
2019	-65.7	-77.6	39.6	61.0	-29.6	-35.0	42.4	35.7
2020	-60.0	-69.2	37.7	55.6	-27.1	-31.2	40.3	32.9
2021	-78.7	-84.0	19.4	60.7	-35.5	-37.9	20.8	31.4
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

} Historic - Current
} (Historic - Current) / Current