

Northern CVP Water Temperature Report

March - 2024

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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	CCR ²	BSF	BND	RDB	IGO	LWS	DGC	NFH	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB
Feb	50.4	49.0	48.8	49.3	49.3	49.4	49.8	49.8	50.0	49.3	46.5	45.4	46.2	14954	1679	19871	51.8	48.8	50.2
03/01	50.6	48.4	49.2	48.8	48.8	49.0	49.3	49.5	49.7	48.5	47.1	44.8	45.6	18599	1764	19383	49.5	49.5	49.9
03/02	50.7	48.3	49.2	48.6	48.5	48.6	48.4	48.5	48.6	47.1	46.8	42.7	43.2	15904	1721	8449	42.5	43.4	43.7
03/03	50.7	48.4	49.0	48.5	48.4	48.6	48.1	47.7	47.6	46.8	46.8	42.6	42.8	14828	1745	15339	44.0	41.6	43.5
03/04	50.7	48.4	48.8	48.5	48.4	48.5	48.1	47.8	47.8	46.9	46.8	43.2	43.5	14611	1739	15260	42.5	42.2	43.0
03/05	50.6	48.5	48.8	48.6	48.6	48.8	48.4	48.4	48.4	48.4	46.7	43.6	44.2	12895	1747	15103	50.0	50.8	51.7
03/06	50.1	48.6	48.8	48.8	49.0	49.1	49.4	49.2	49.4	49.9	46.8	44.7	45.5	13941	1723	15176	54.5	51.5	53.1
03/07	51.1	48.9	48.7	48.9	49.1	49.3	49.7	50.0	50.2	49.2	46.8	45.3	46.2	10589	1365	15151	55.5	50.6	52.7
03/08	51.1	48.8	48.7	49.2	49.4	49.6	49.9	50.1	50.4	48.9	46.6	45.2	46.2	13604	1754	15252	57.5	50.4	53.1
03/09	51.3	48.7	48.7	49.1	49.3	49.5	49.9	50.1	50.4	48.8	46.6	45.4	46.3	13793	1754	15199	52.0	48.8	51.1
03/10	50.2	48.6	48.6	48.9	49.0	49.2	49.7	50.0	50.3	48.7	46.7	45.1	46.1	13360	1615	14940	53.5	50.4	50.9
03/11	51.2	48.6	48.5	48.9	49.0	49.1	49.5	49.7	49.9	48.7	46.7	44.8	45.5	14270	1731	15224	51.5	48.5	50.0
03/12	50.4	48.5	48.6	48.9	49.2	49.3	49.9	50.1	50.3	49.5	47.0	45.7	46.4	13669	1659	15100	52.5	51.0	51.8
03/13	50.4	48.6	48.7	48.8	49.1	49.3	50.0	50.4	50.8	49.3	47.3	45.7	46.7	14265	1747	15177	55.0	50.8	52.8
03/14	50.5	49.0	48.7	49.1	49.4	49.6	50.2	50.5	50.8	49.3	47.7	46.2	47.1	12012	1734	13079	62.0	57.7	58.7
03/15	50.5	48.7	48.9	49.3	49.6	49.9	50.6	50.9	51.2	49.8	48.0	46.2	47.1	10668	1721	11353	66.5	62.0	60.3
03/16	50.9	49.2	49.0	49.6	49.9	50.3	51.1	51.5	52.0	50.1	48.4	46.8	47.5	9453	976	9711	61.0	55.8	58.3
03/17	51.0	49.2	49.0	49.9	50.3	50.8	51.7	52.4	52.9	50.5	48.8	47.6	48.3	7432	471	8205	63.5	58.1	59.8
03/18	50.9	49.3	48.8	49.9	50.4	50.9	52.3	53.2	53.9	50.7	49.2	48.5	49.0	6525	461	7090	63.0	58.2	59.8
03/19	51.0	?	49.5	48.7	50.1	50.7	51.3	52.9	53.9	54.6	51.1	49.8	49.4	5555	1095	6132	62.0	58.3	61.1
03/20	51.0	49.1	48.8	50.2	50.7	51.3	53.5	54.8	55.5	51.1	50.1	49.9	50.0	5068	986	5848	62.0	59.0	59.8
03/21	51.6	49.2	48.1	50.3	50.9	51.5	53.3	54.4	55.3	49.6	50.5	49.9	50.2	4518	113	5679	59.0	57.6	57.9
03/22	50.6	49.0	48.6	50.2	50.5	50.9	52.7	54.2	54.9	49.3	50.5	48.9	49.3	5297	327	5403	60.0	54.2	55.1
03/23	50.1	48.7	48.6	50.0	50.9	50.6	50.8	52.2	52.9	49.2	50.3	47.3	47.2	4864	399	5339	53.0	49.8	51.7
03/24	50.4	48.8	48.9	49.7	50.7	51.0	50.8	50.7	51.2	49.5	50.3	47.6	47.6	4271	287	5091	56.5	50.6	54.3
03/25	50.5	49.0	48.4	49.6	50.3	50.8	52.3	52.9	53.5	49.6	50.4	48.8	48.8	4368	125	4879	55.0	52.0	53.8
03/26	50.7	49.1	48.6	49.9	50.5	50.9	52.4	53.2	54.0	49.6	50.4	48.8	49.2	3569	199	4622	54.5	52.5	55.9
03/27	50.5	48.9	47.0	50.2	50.4	50.5	52.1	53.1	53.5	49.4	50.4	48.3	48.5	4557	44	4445	54.5	51.7	53.1
03/28	50.5	48.9	49.0	50.1	50.8	50.9	50.9	51.0	51.9	49.6	50.3	47.4	47.3	3024	546	4338	54.5	51.5	53.5
03/29	49.4	49.0	48.9	49.9	50.2	50.5	51.0	51.2	51.3	49.2	50.3	46.4	46.9	3598	393	4039	49.5	46.5	47.2
03/30	49.9	49.3	47.0	50.0	50.6	50.8	51.4	51.0	51.2	49.7	50.4	46.8	46.8	3965	44	4026	55.0	49.9	52.0
03/31	51.2	49.4	47.0	49.8	50.7	51.3	52.5	52.6	53.1	50.2	50.4	48.4	48.6	3899	44	4031	55.5	52.0	54.0
Mar	50.6	48.8	48.6	49.4	49.8	50.0	50.7	51.1	51.5	49.3	48.5	46.5	47.0	9436	1066	10134	55.1	51.8	53.3
														Total CFS	286971	32029	308063		
														Total AF	569195	63528	611030		

Legend

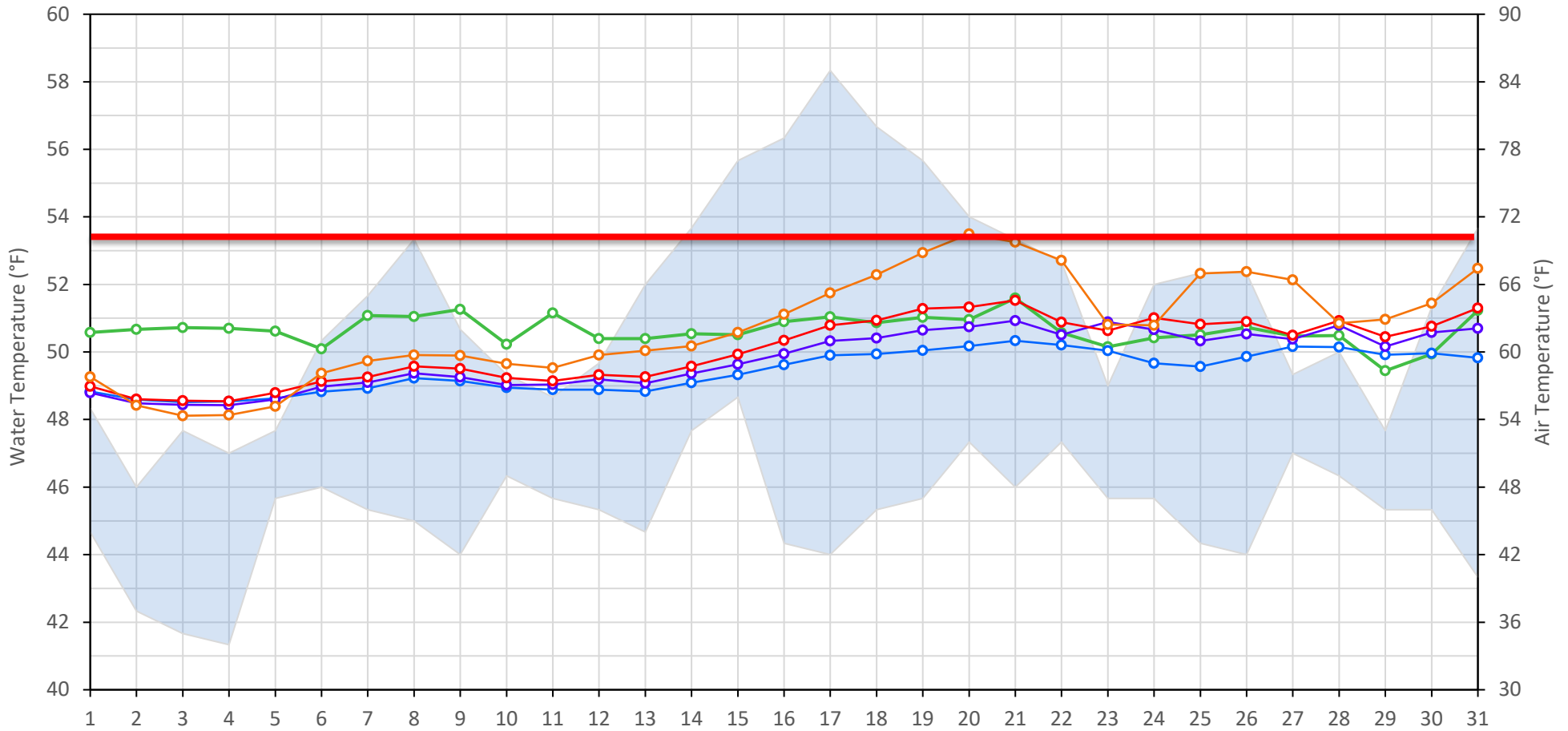
- ? = 1-9 hours of data missing (Average includes estimations)
- ! = 10 or more hours of data missing (Average not calculated)
- # = Station out of service
- ↑ = Record high air temperature
- ↓ = Record low air temperature
- = Monthly Averages

Notes

- 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 Clear Creek River control point (see page 3 for more details)

Sacramento River Mean Daily Temperatures

Redding Air (Observed and Forecasted) TCD KWK SAC CCR BSF



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

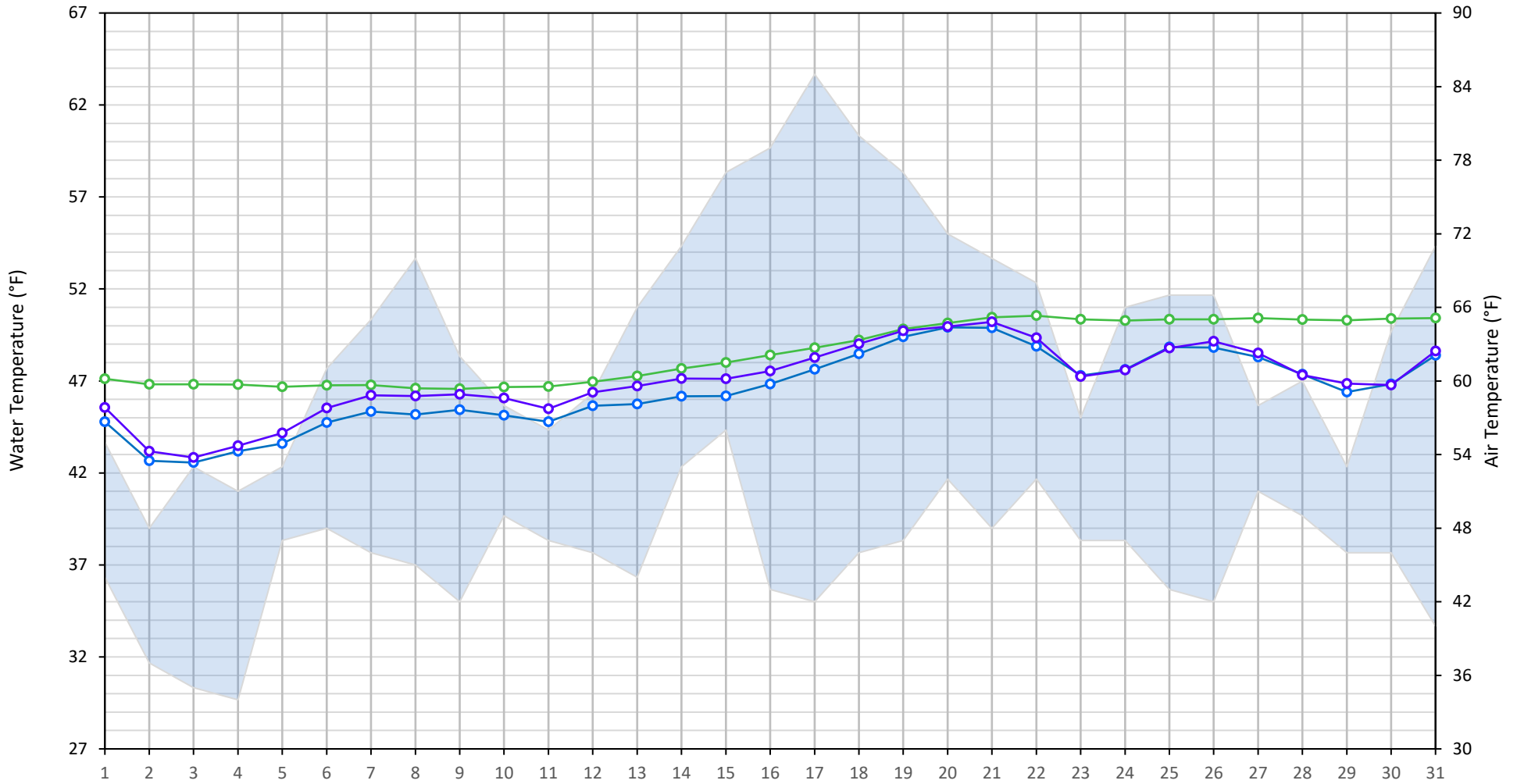
Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	CCR	53.5	05/14/2023	TBD

Notes

¹ Distances are approximate

Trinity River Mean Daily Temperatures

Redding Air (Observed and Forecasted) LWS DGC NFH



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

Notes

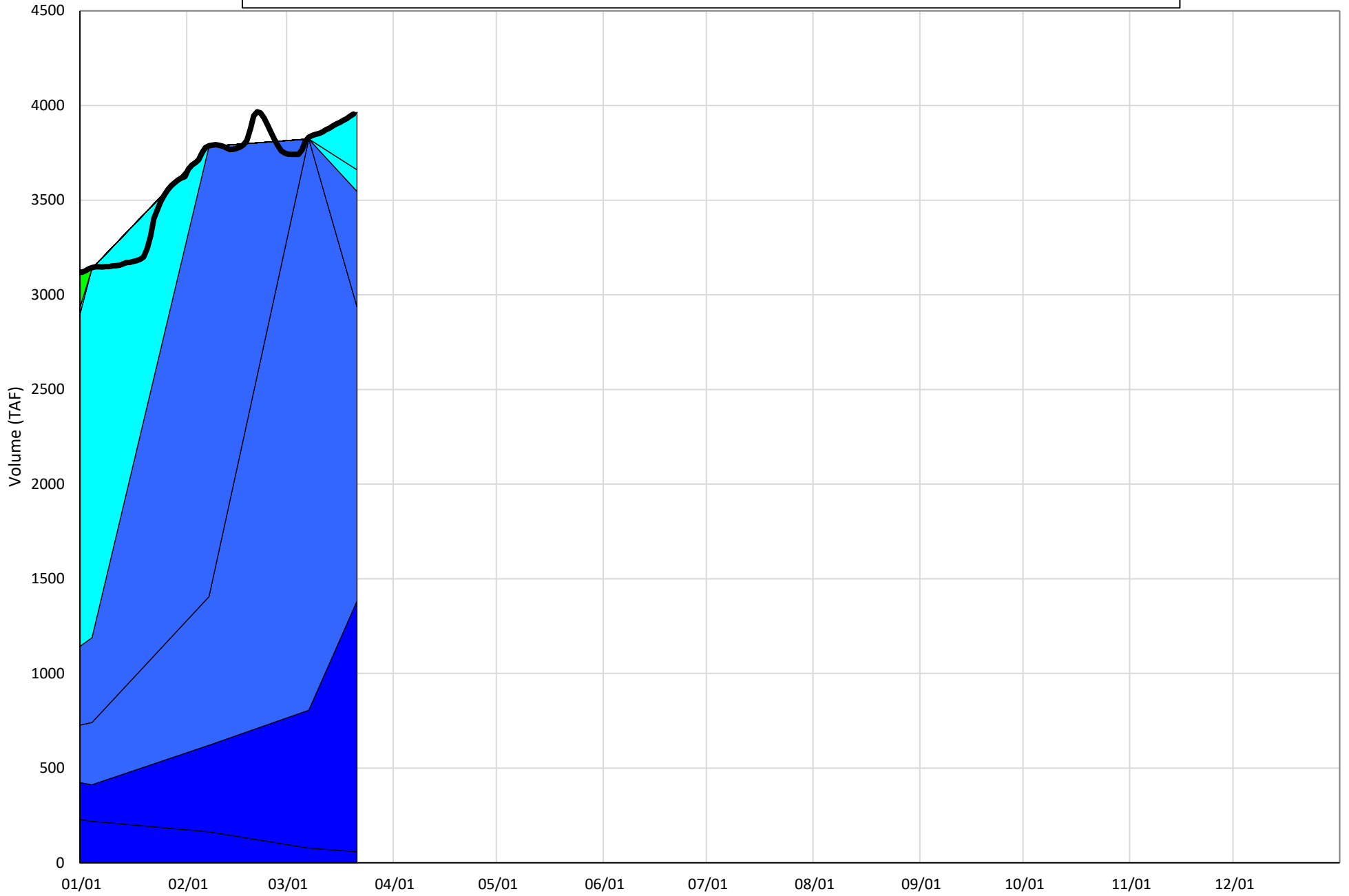
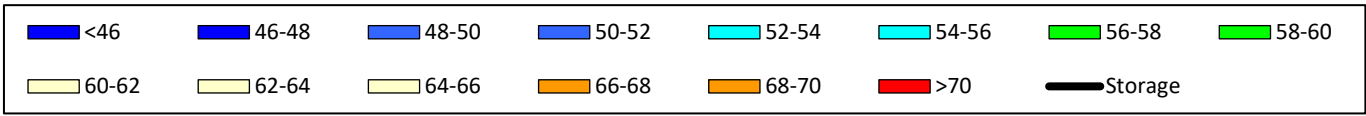
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

2024

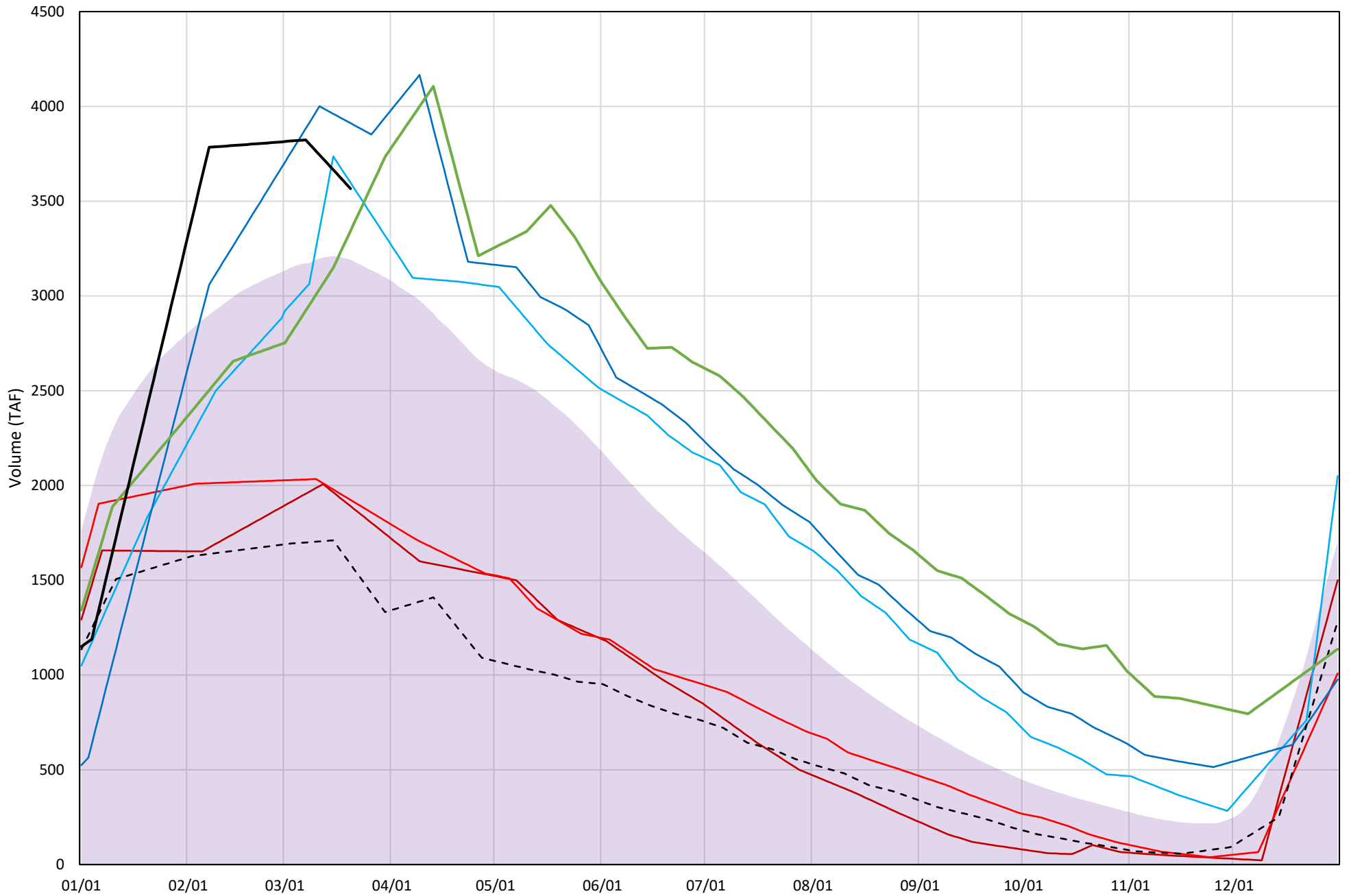
Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
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12	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances
13	- Shasta Lake Cold Water Pool Comparison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

Shasta Lake Isothermobaths Plot - 2024

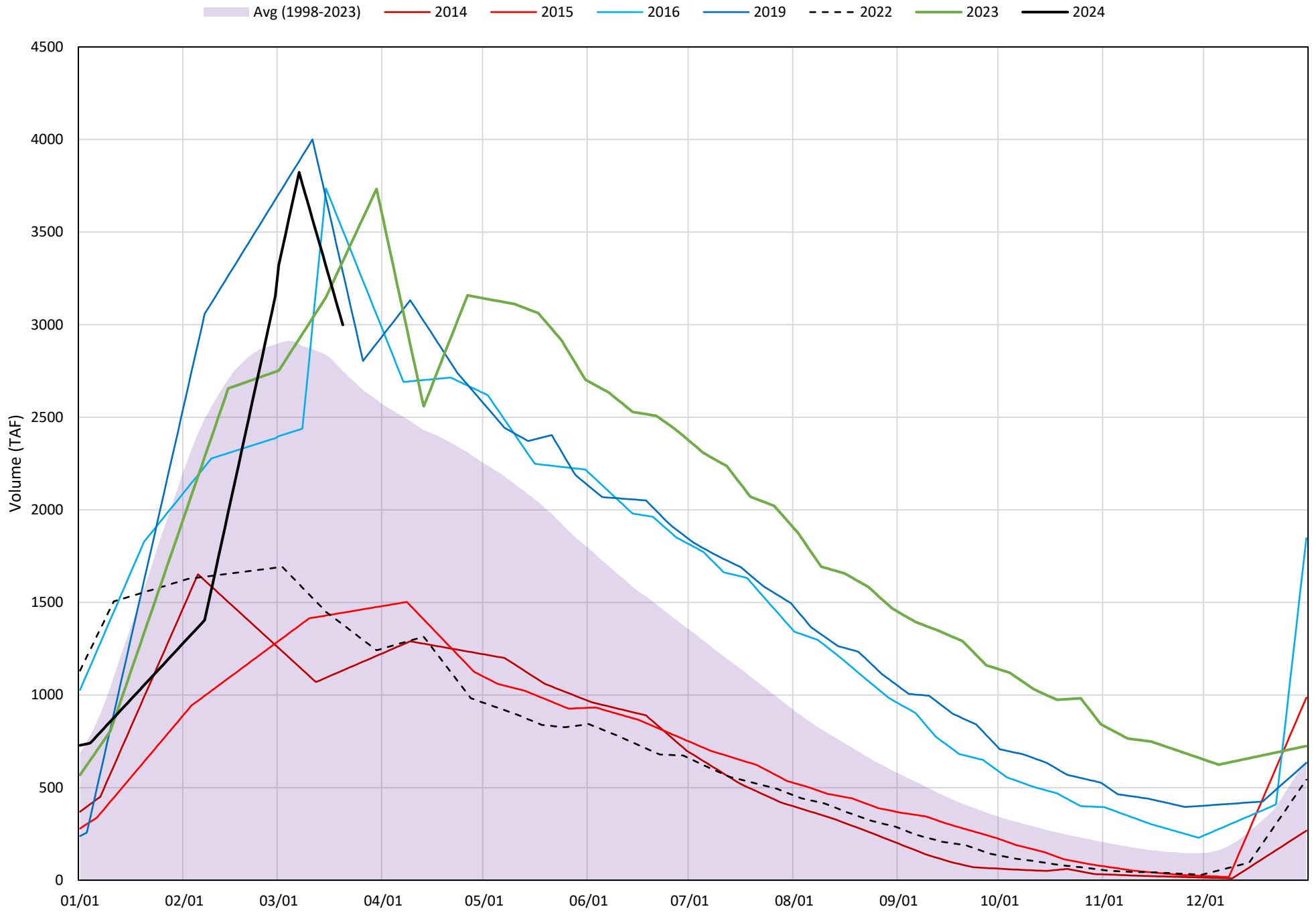


Shasta Lake Cold Water Pool Volume ≤52°F

Avg (1998-2023) 2014 2015 2016 2019 2022 2023 2024

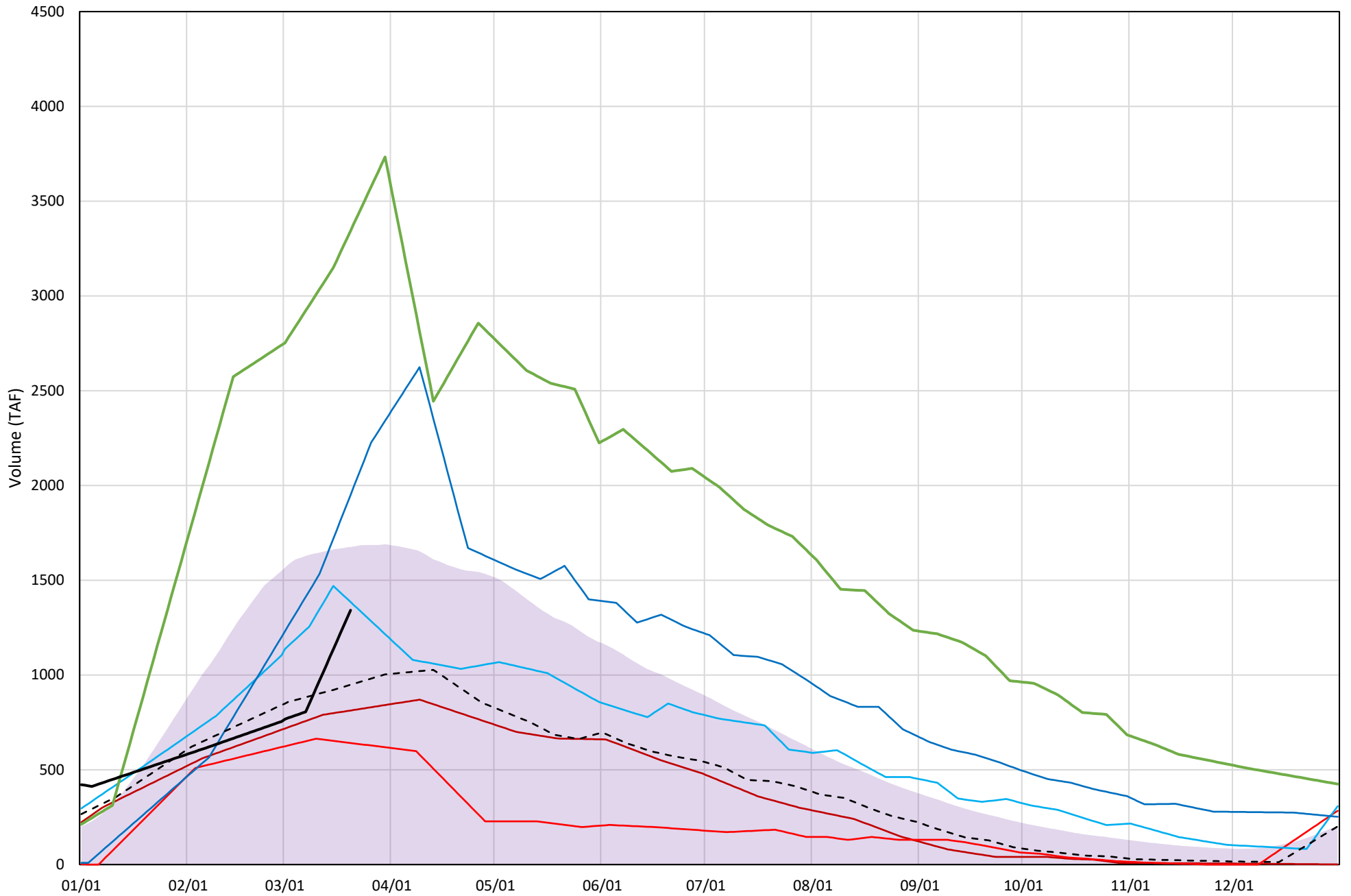


Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$



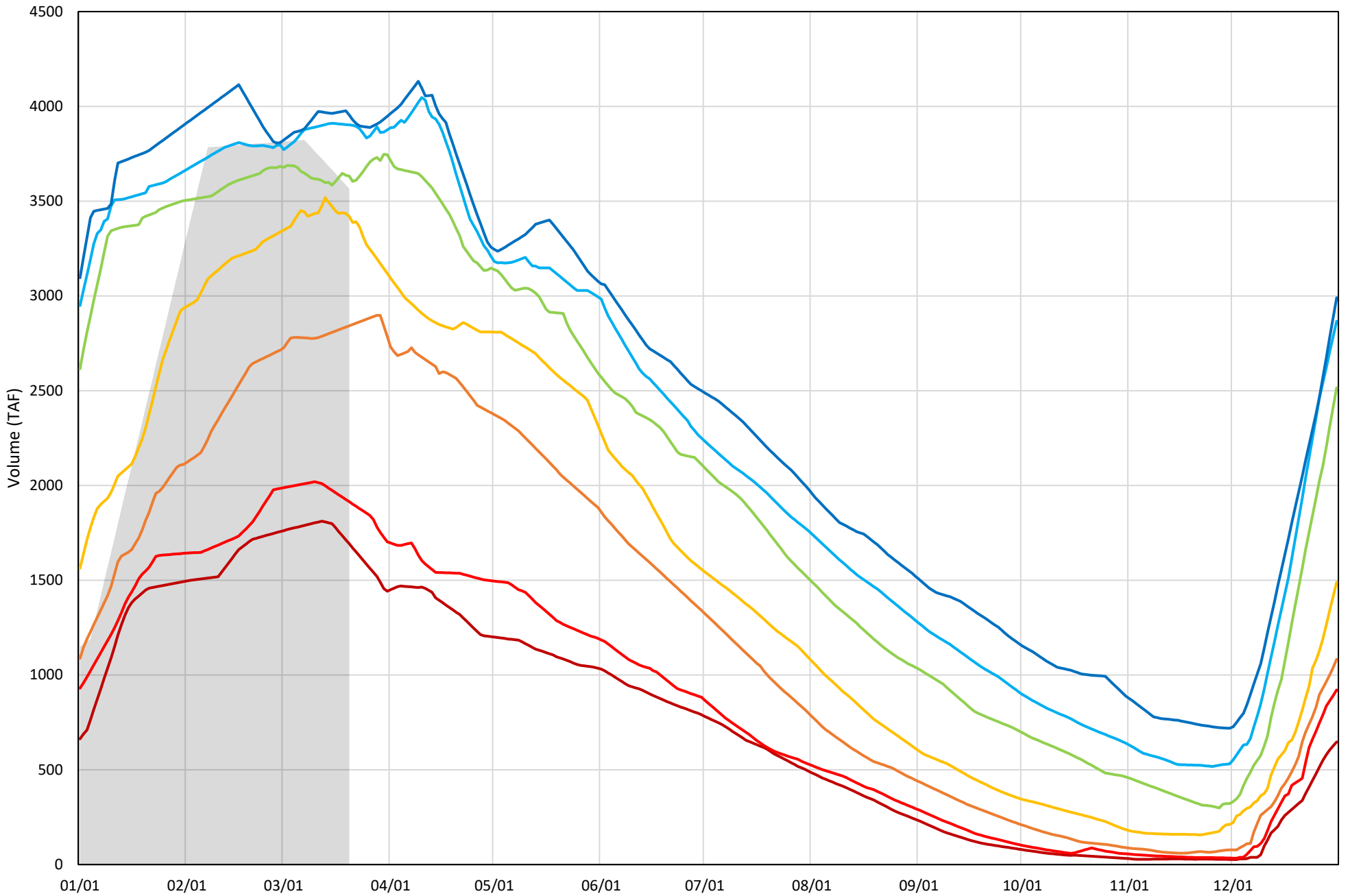
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (1998-2023) 2014 2015 2016 2019 2022 2023 2024



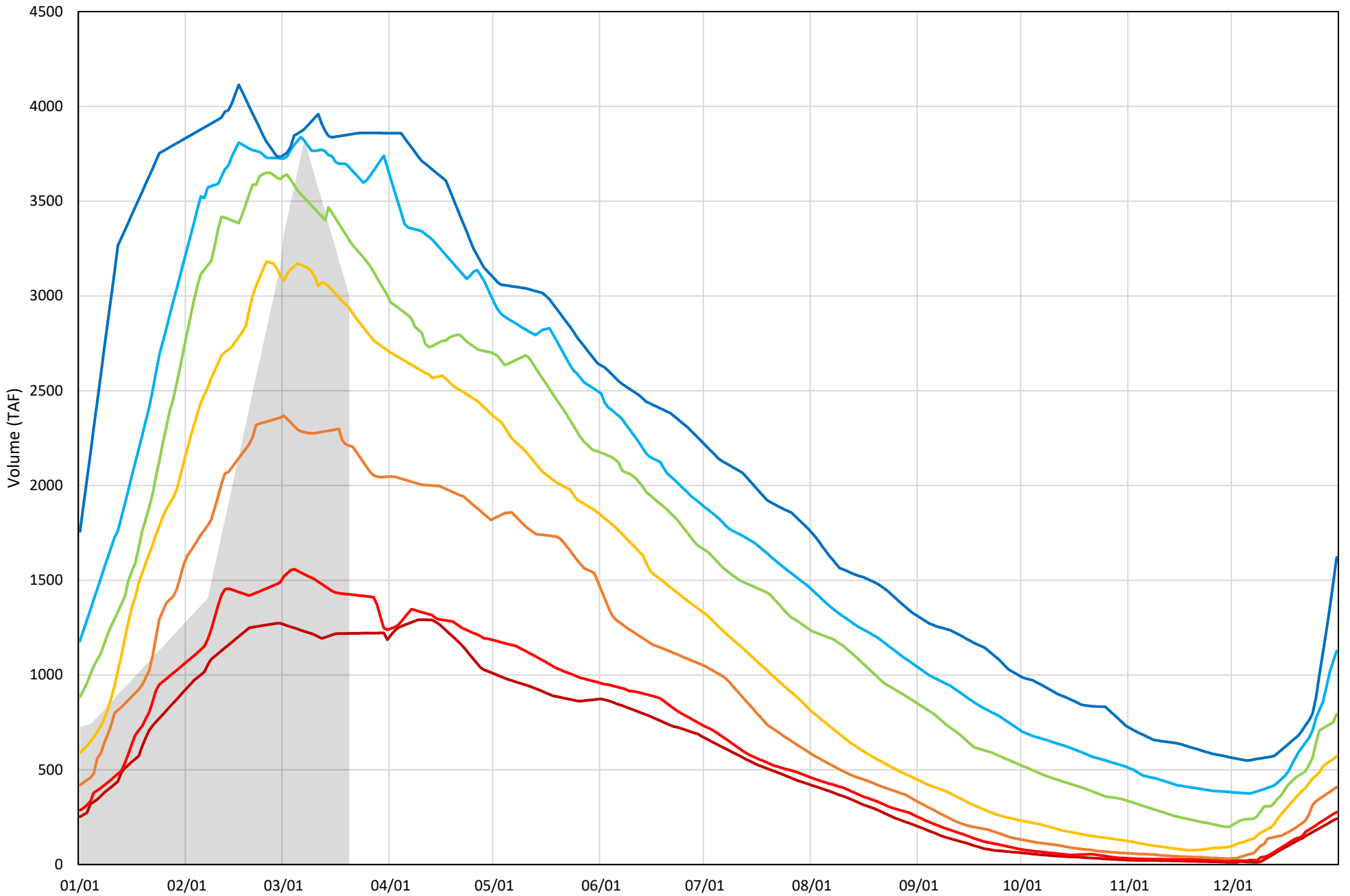
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



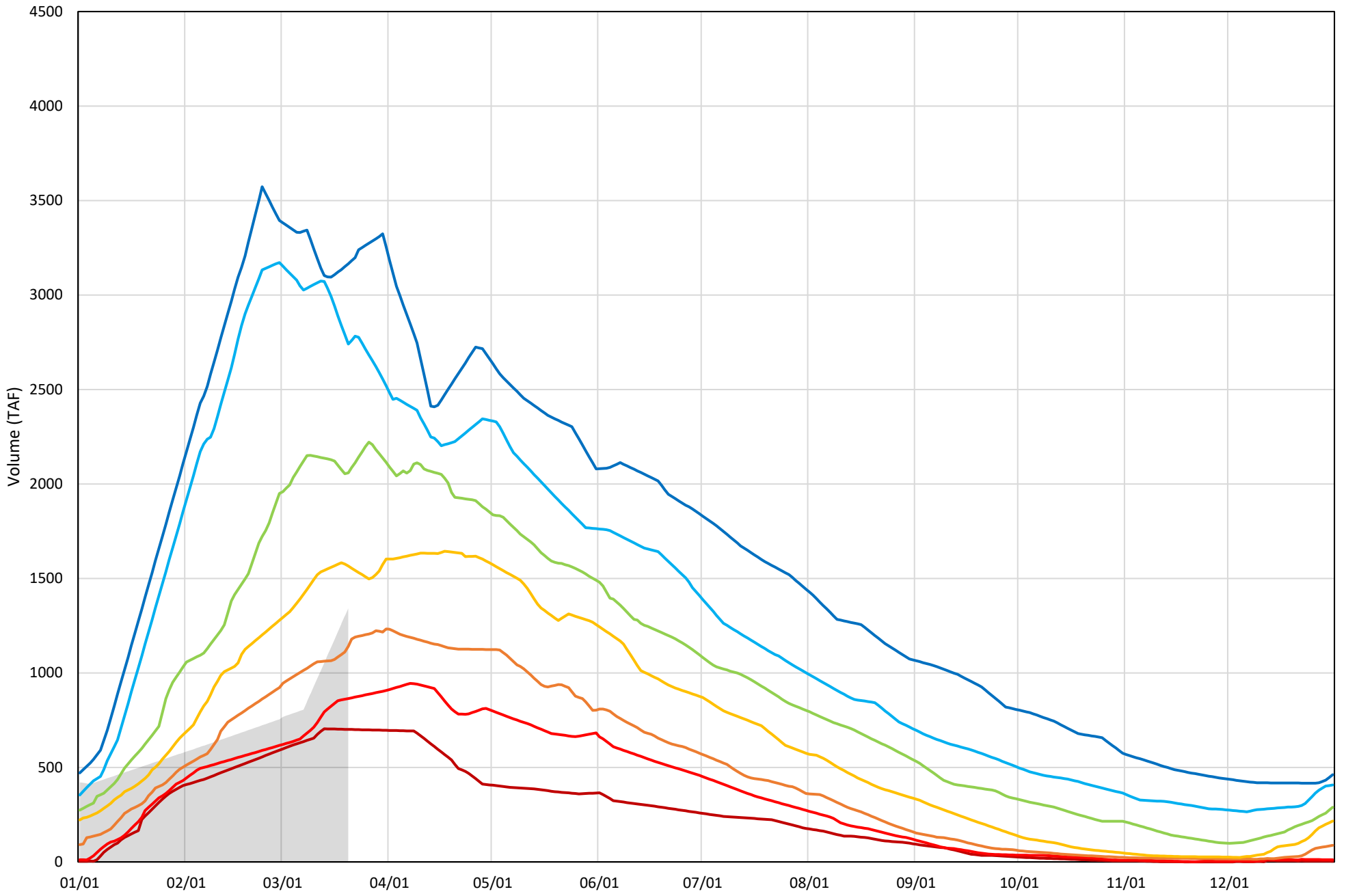
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



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

Mar-21 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	-137	160	-192	163	-4	5	-14	8
1999	1	282	1494	592	0	9	111	40
2000	-232	-136	-138	169	-7	-5	-10	7
2001	-400	-120	1056	525	-11	-4	79	31
2002	410	641	535	529	11	21	40	24
2003	-329	-579	158	356	-9	-19	12	13
2004	-192	290	-87	190	-5	10	-7	7
2005	-814	-757	-19	530	-23	-25	-1	17
2006	198	765	1351	771	6	25	101	44
2007	-146	305	357	269	-4	10	27	14
2008	-694	-728	289	570	-19	-24	22	22
2009	-1310	-886	573	923	-37	-30	43	36
2010	121	8	574	234	3	0	43	15
2011	332	899	1044	758	9	30	78	39
2012	-50	-3	-39	31	-1	0	-3	1
2013	-149	-146	425	240	-4	-5	32	14
2014	-1675	-1866	-529	1357	-47	-62	-39	50
2015	-1642	-1555	-700	1299	-46	-52	-52	50
2016	31	510	43	195	1	17	3	7
2017	128	-7	1358	498	4	0	101	35
2018	46	-653	-407	369	1	-22	-30	18
2019	345	284	608	412	10	9	45	21
2020	-15	-995	-226	412	0	-33	-17	17
2021	-1391	-925	-455	924	-39	-31	-34	35
2022	-1982	-1619	-393	1331	-56	-54	-29	46
2023	-223	344	2002	856	-6	11	149	56
2024	0	0	0	0	0	0	0	0

Historical - Current

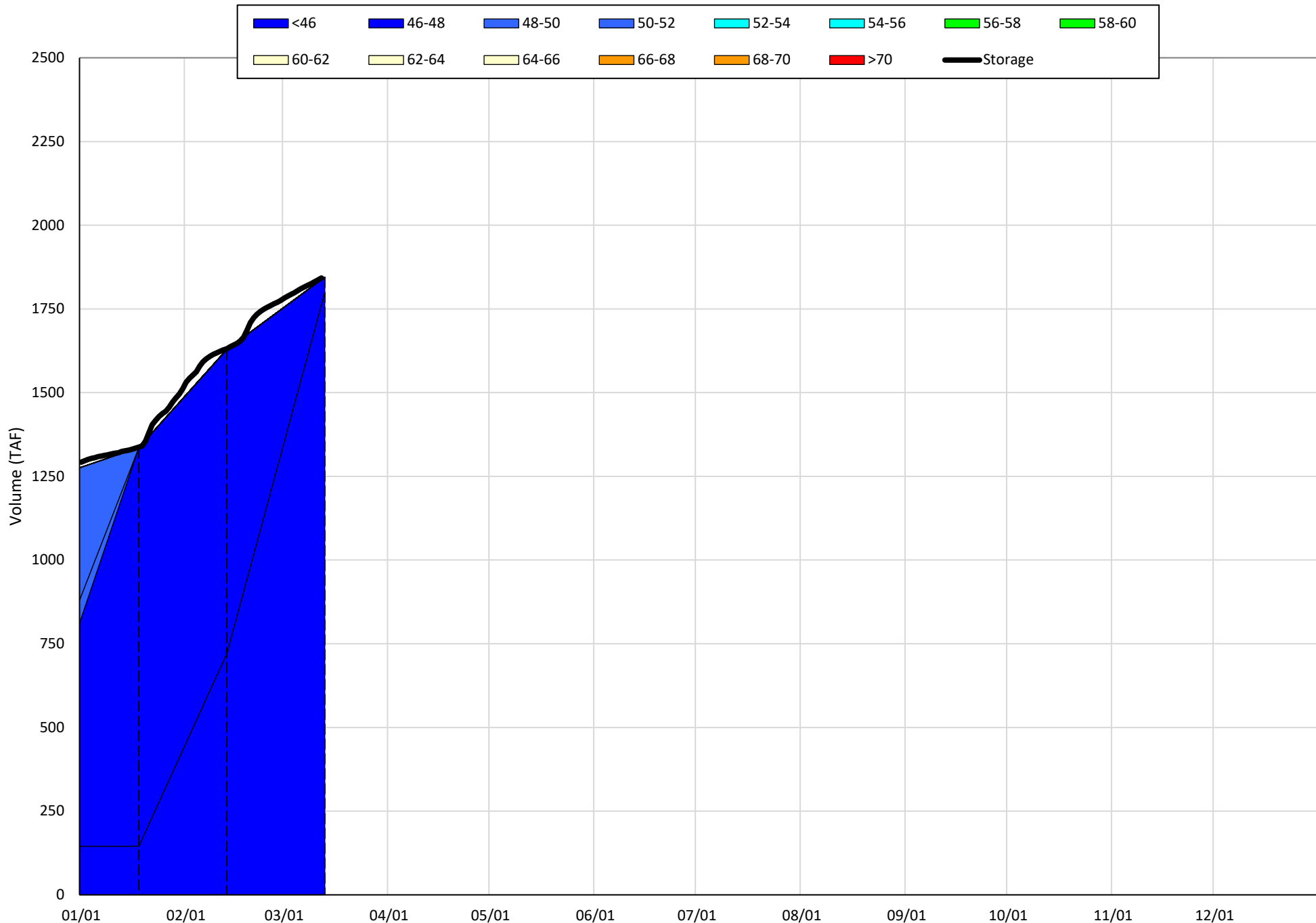
(Historical - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2024

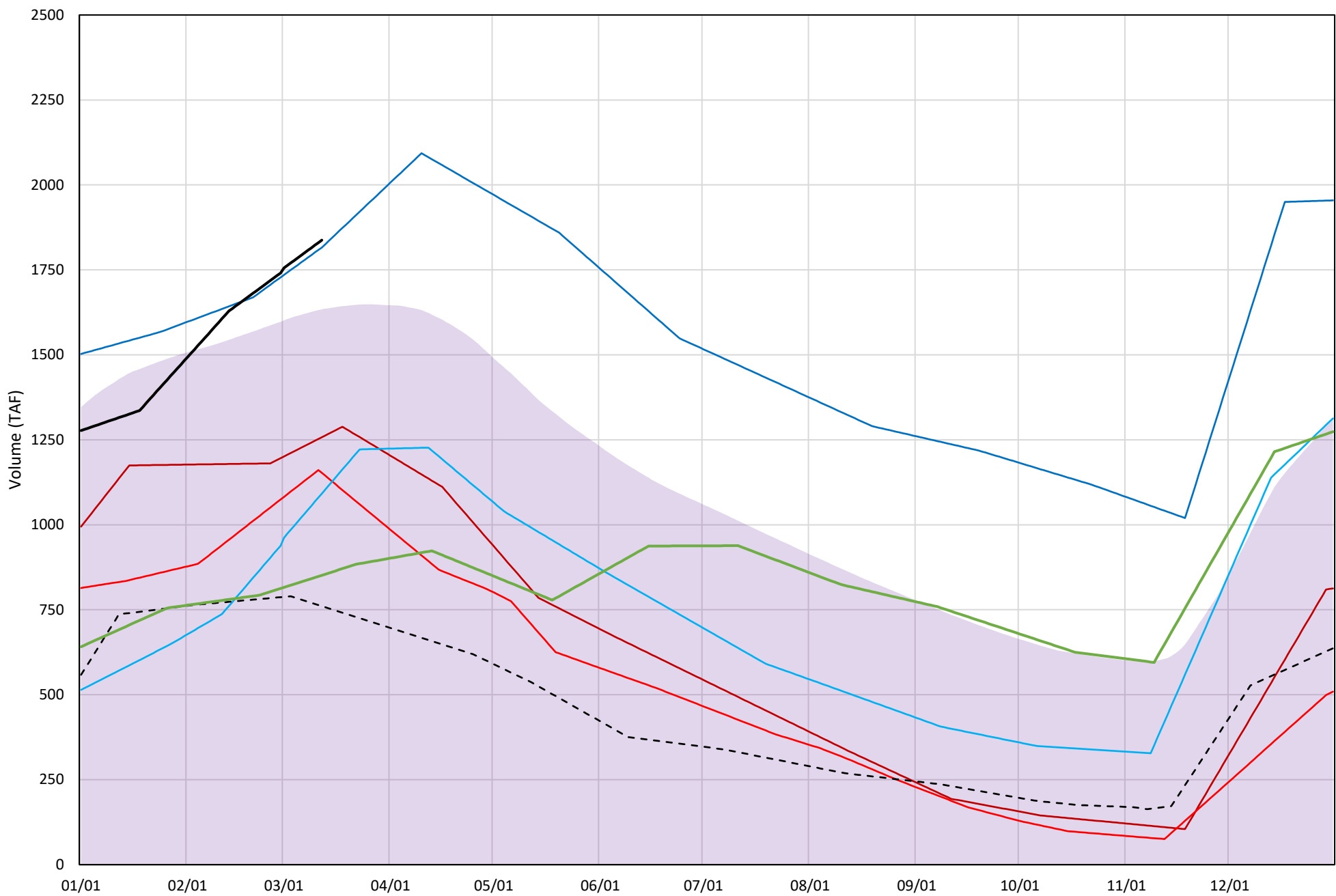
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - 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 - 2024



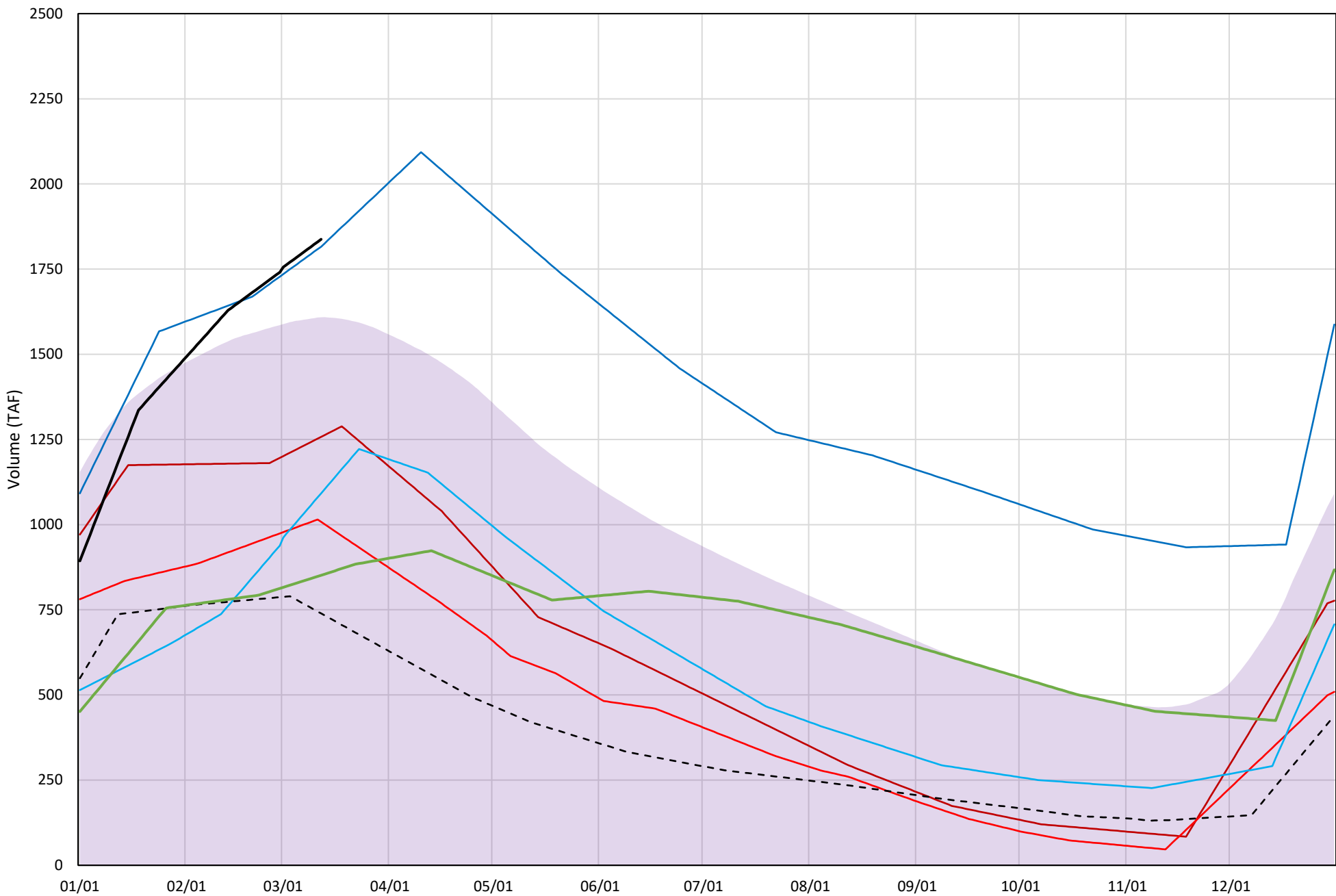
Trinity Lake Cold Water Pool Volume ≤52°F

Avg (2000-2023) 2014 2015 2016 2019 2022 2023 2024



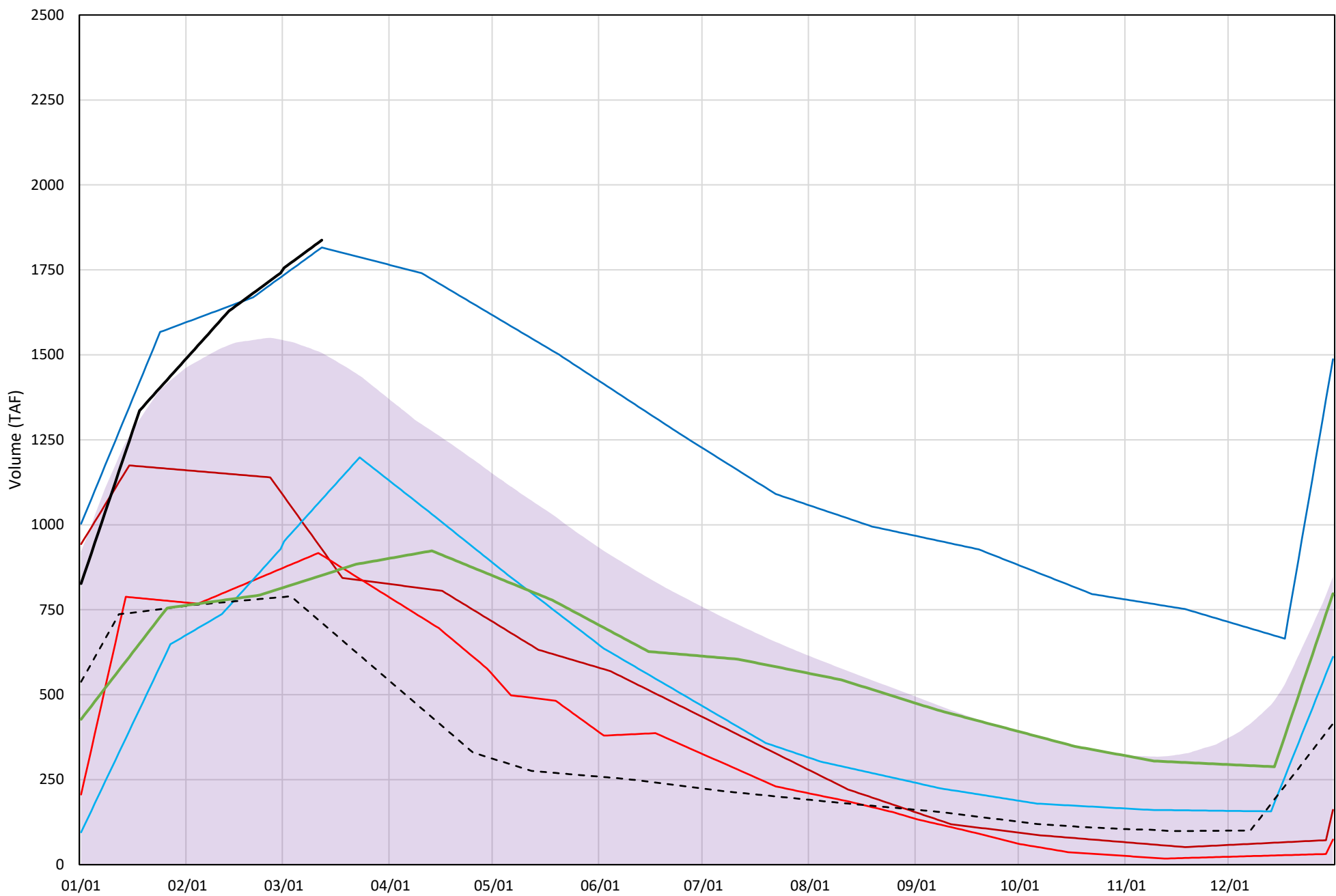
Trinity Lake Cold Water Pool Volume ≤50°F

Avg (2000-2023) 2014 2015 2016 2019 2022 2023 2024



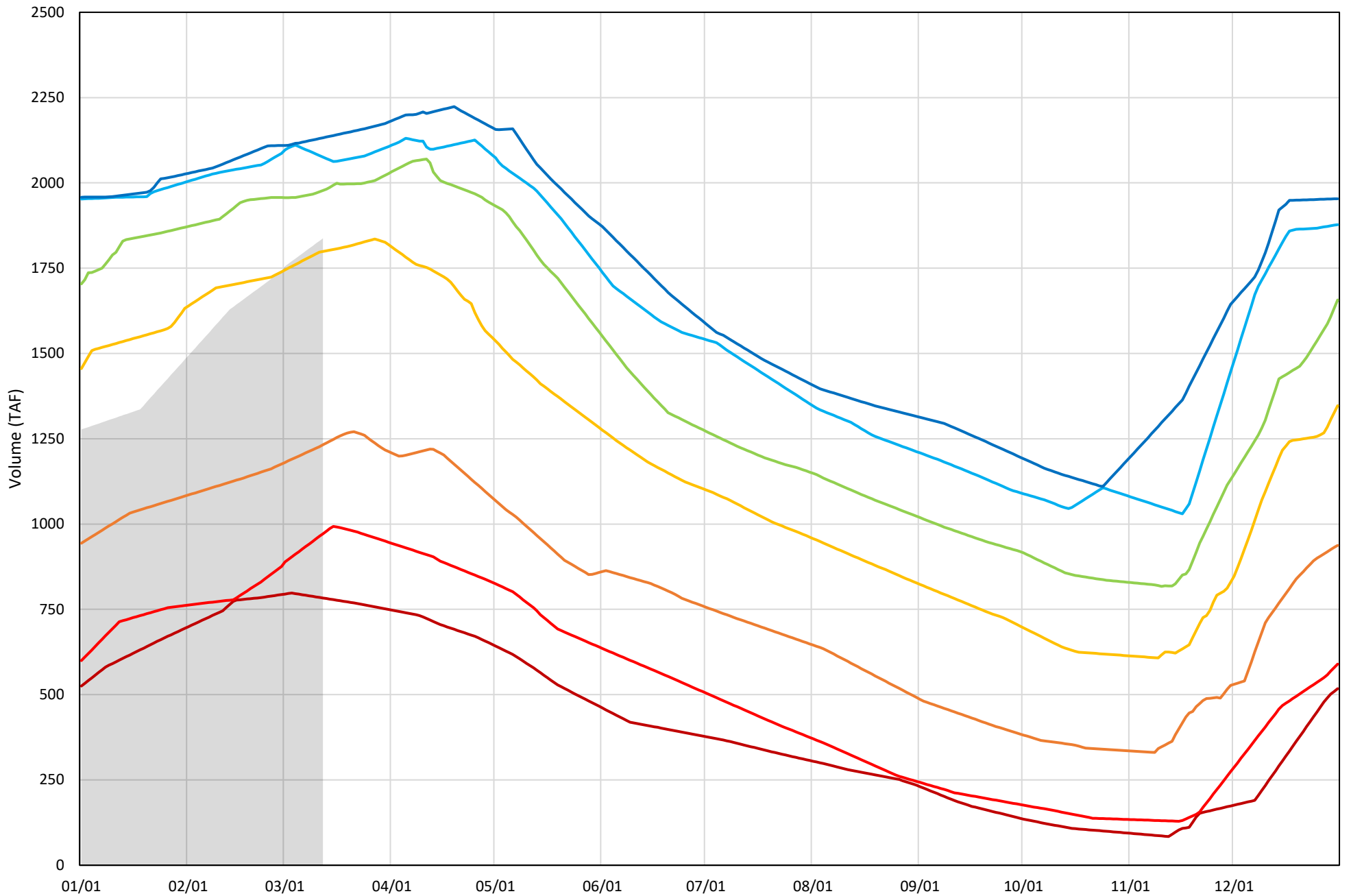
Trinity Lake Cold Water Pool Volume ≤48°F

Avg (2000-2023) 2014 2015 2016 2019 2022 2023 2024



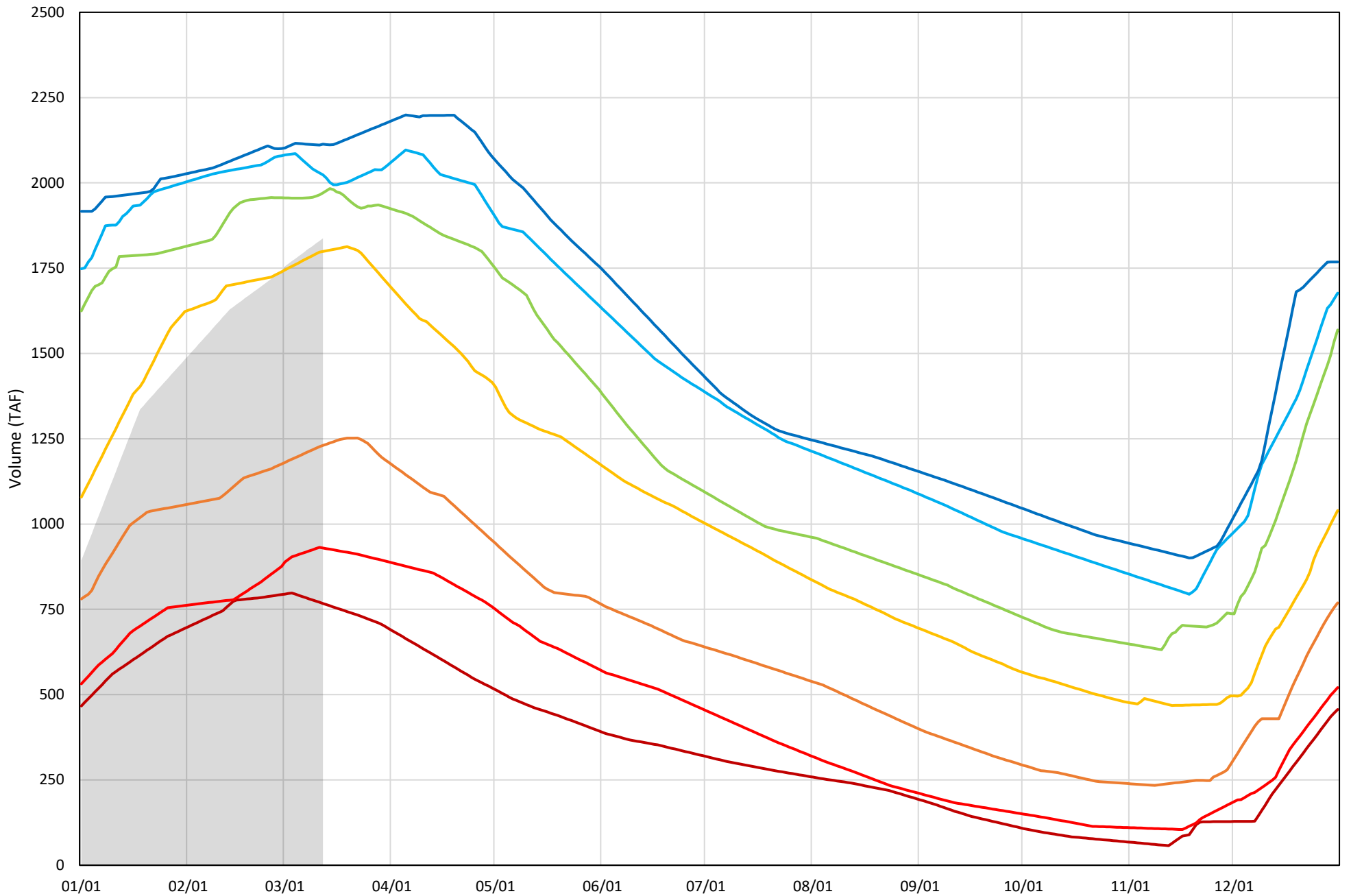
Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



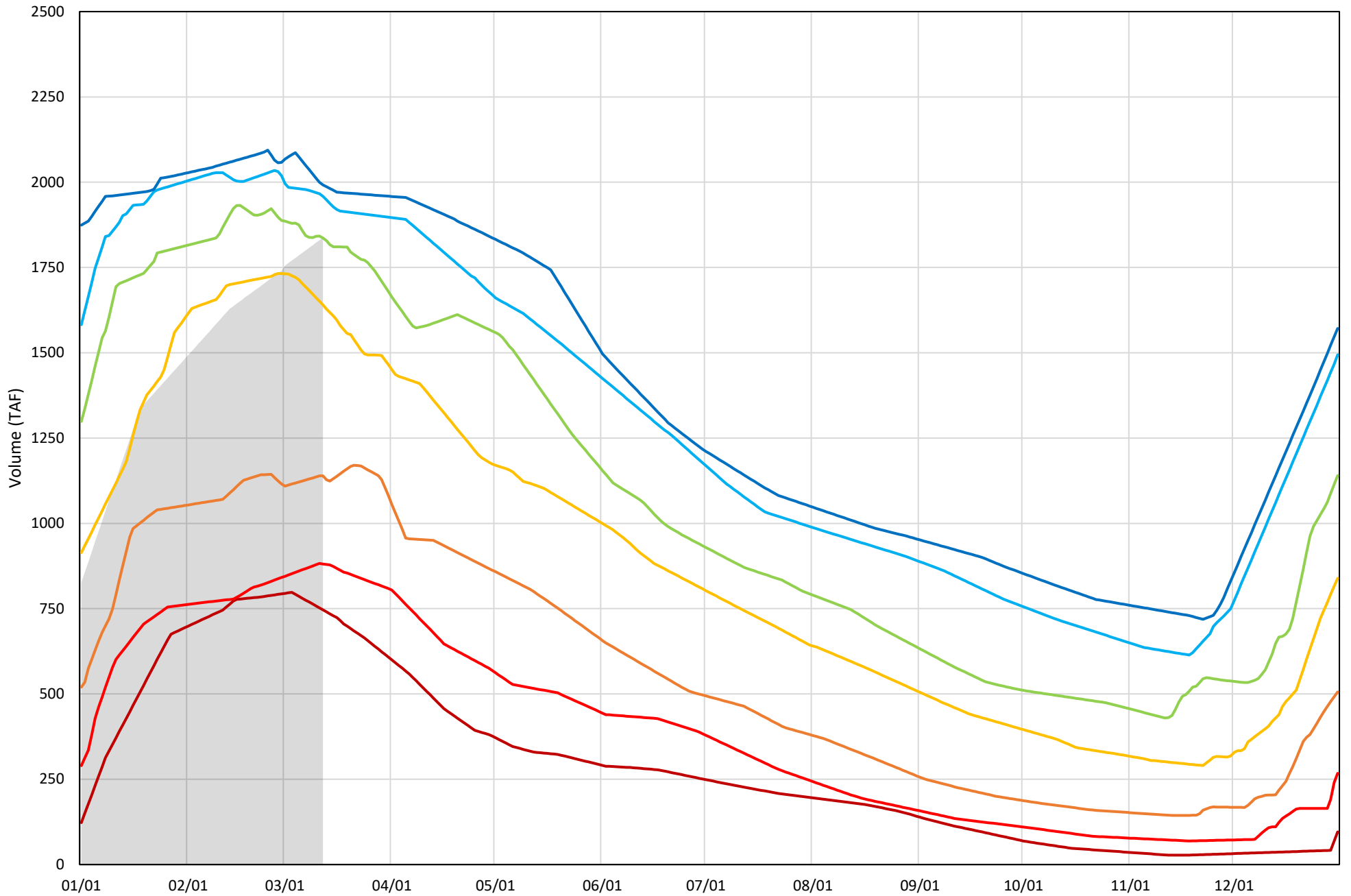
Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



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

Mar-13 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	267	172	-106	182	15	9	-6	10
2001	-157	-183	-221	187	-9	-10	-12	10
2002	-48	-48	-101	66	-3	-3	-5	4
2003	142	128	-166	146	8	7	-9	8
2004	210	179	147	179	11	10	8	10
2005	-113	-368	-502	328	-6	-20	-27	18
2006	304	304	157	255	17	17	9	14
2007	102	102	-209	138	6	6	-11	7
2008	-311	-311	-311	311	-17	-17	-17	17
2009	-723	-723	-723	723	-39	-39	-39	39
2010	-614	-616	-624	618	-33	-34	-34	34
2011	135	135	74	115	7	7	4	6
2012	118	103	95	105	6	6	5	6
2013	172	172	6	117	9	9	0	6
2014	-580	-580	-909	690	-32	-32	-49	38
2015	-685	-829	-927	814	-37	-45	-50	44
2016	-746	-746	-763	751	-41	-41	-42	41
2017	118	118	24	87	6	6	1	5
2018	-29	-29	-29	29	-2	-2	-2	2
2019	-22	-22	-22	22	-1	-1	-1	1
2020	192	192	-186	190	10	10	-10	10
2021	-559	-559	-559	559	-30	-30	-30	30
2022	-1077	-1098	-1126	1100	-59	-60	-61	60
2023	-986	-986	-986	986	-54	-54	-54	54
2024	0	0	0	0	0	0	0	0

Historical - Current

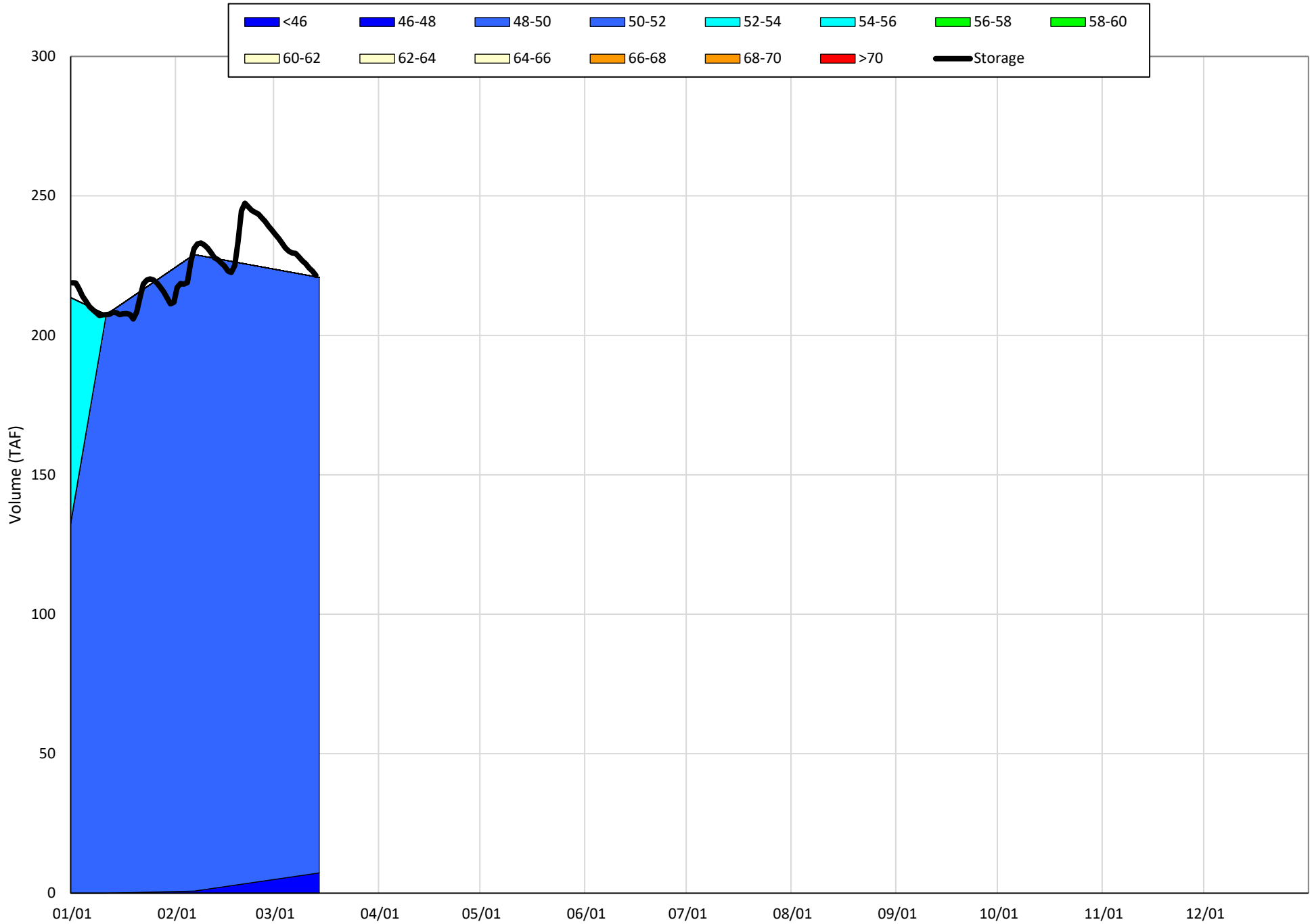
(Historical - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

2024

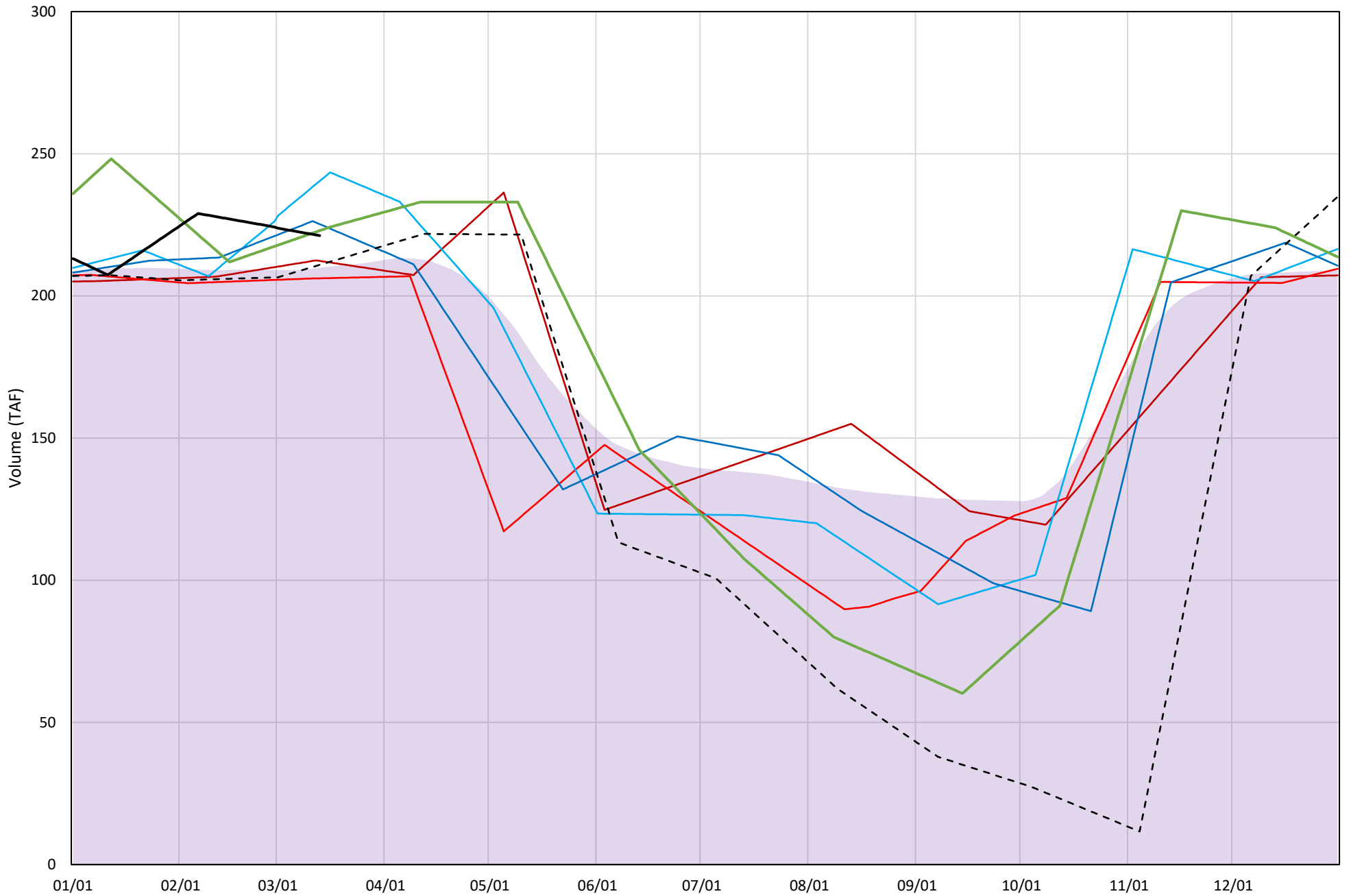
Page	Description
24	- Whiskeytown Lake Isothermobaths Plot
25	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$
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27	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$
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29	- 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 - 2024

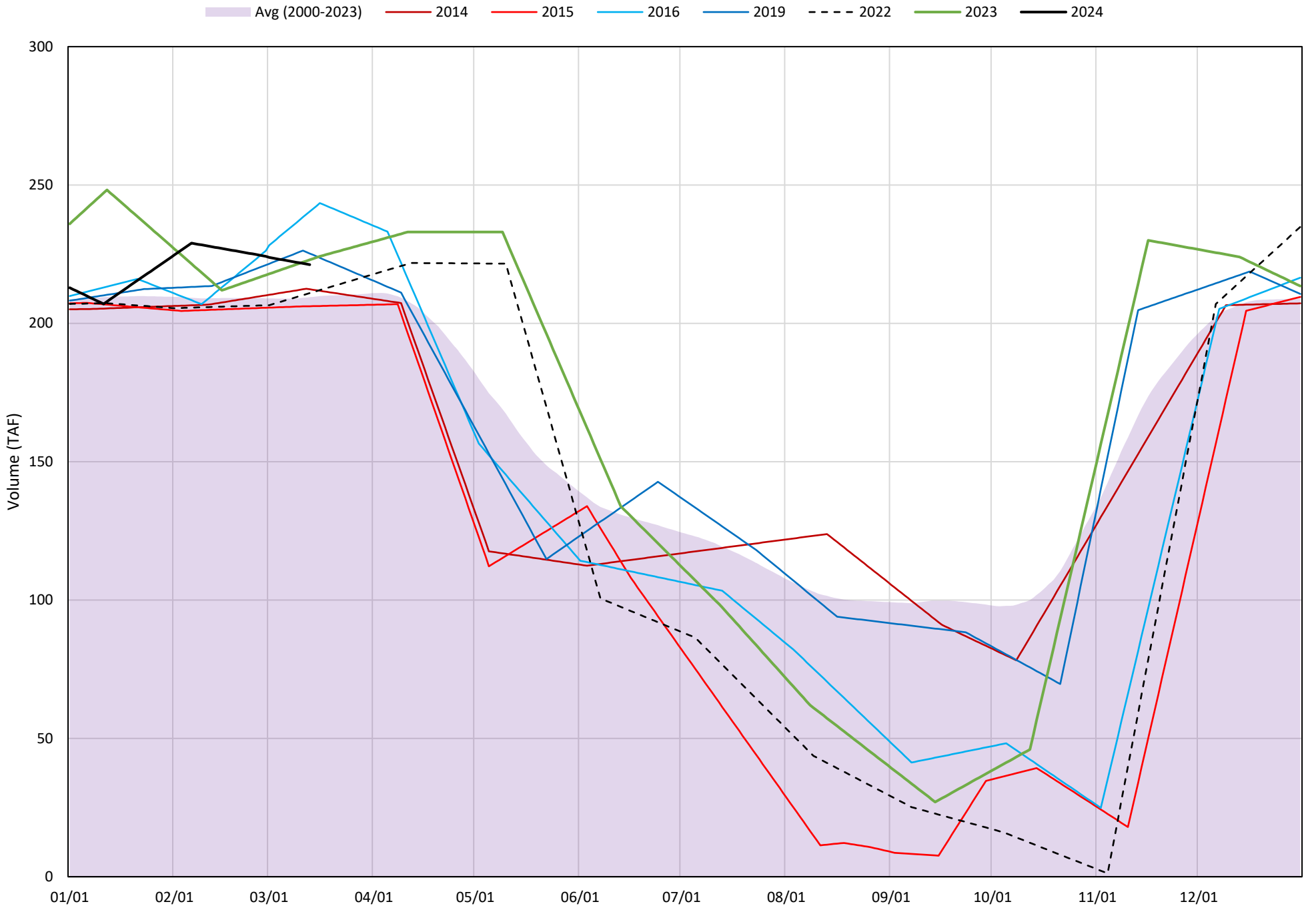


Whiskeytown Lake Cold Water Pool Volume ≤60°F

Avg (2000-2023) 2014 2015 2016 2019 2022 2023 2024

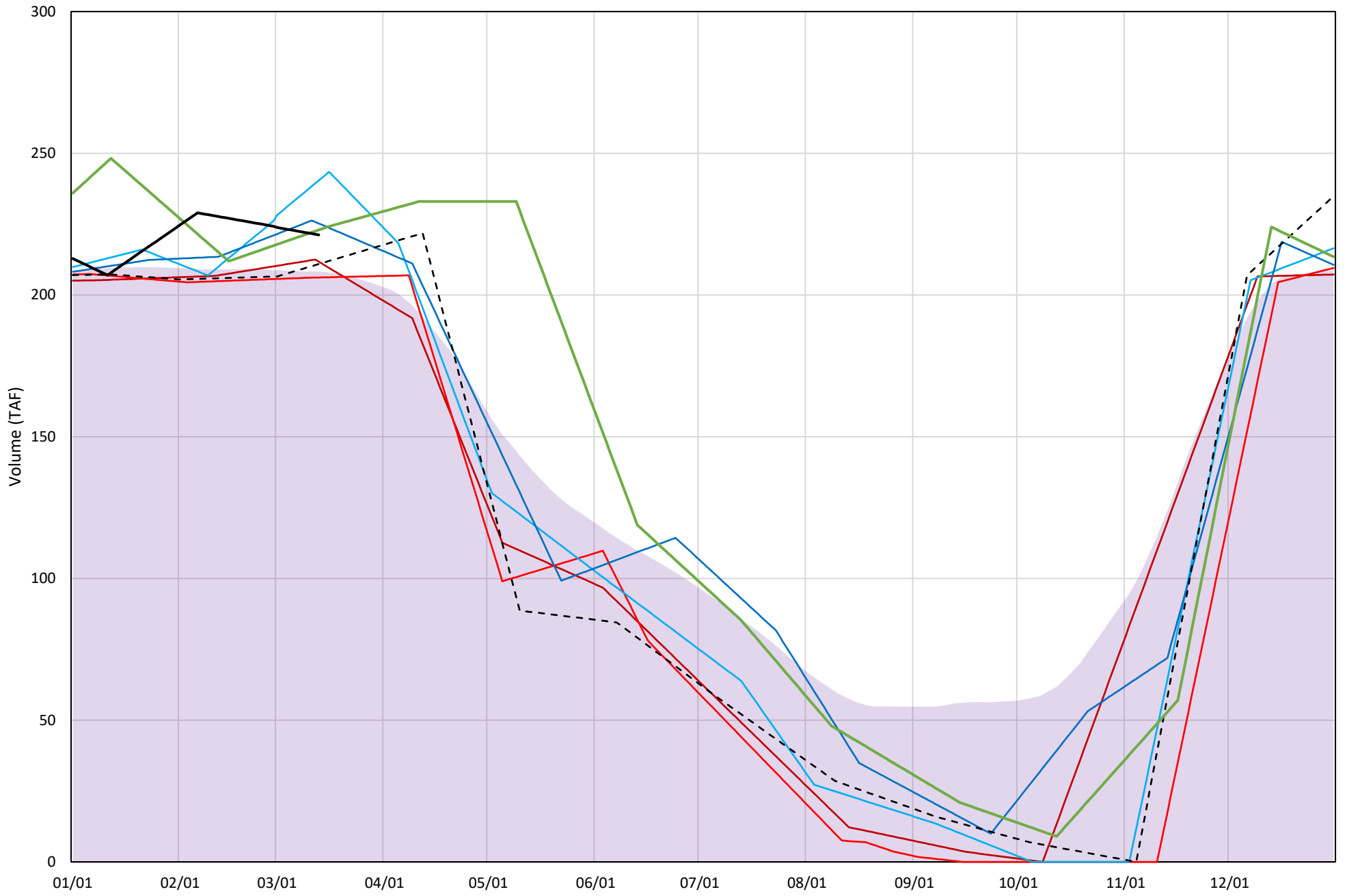


Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$



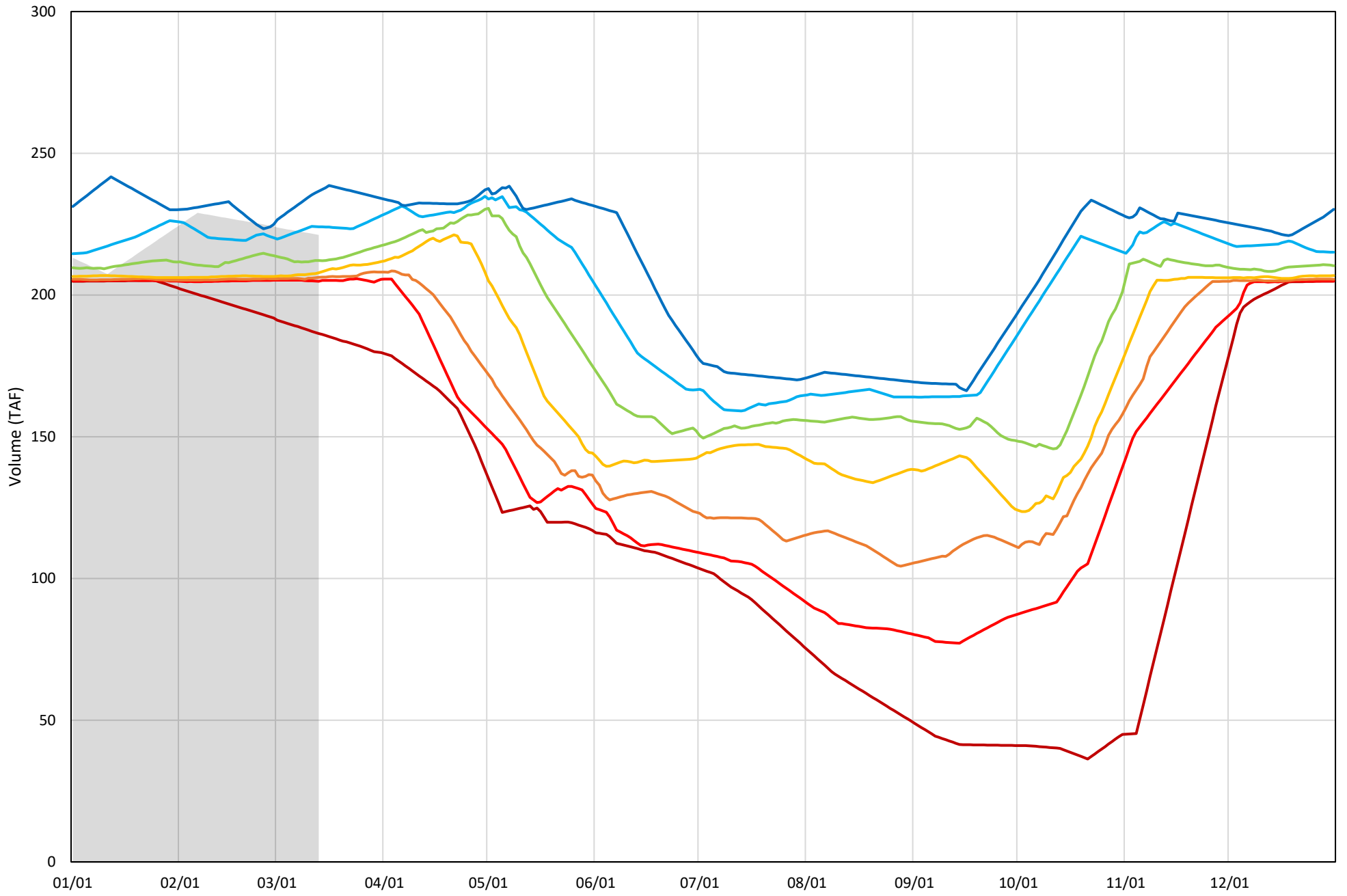
Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$

Avg (2000-2023) 2014 2015 2016 2019 2022 2023 2024



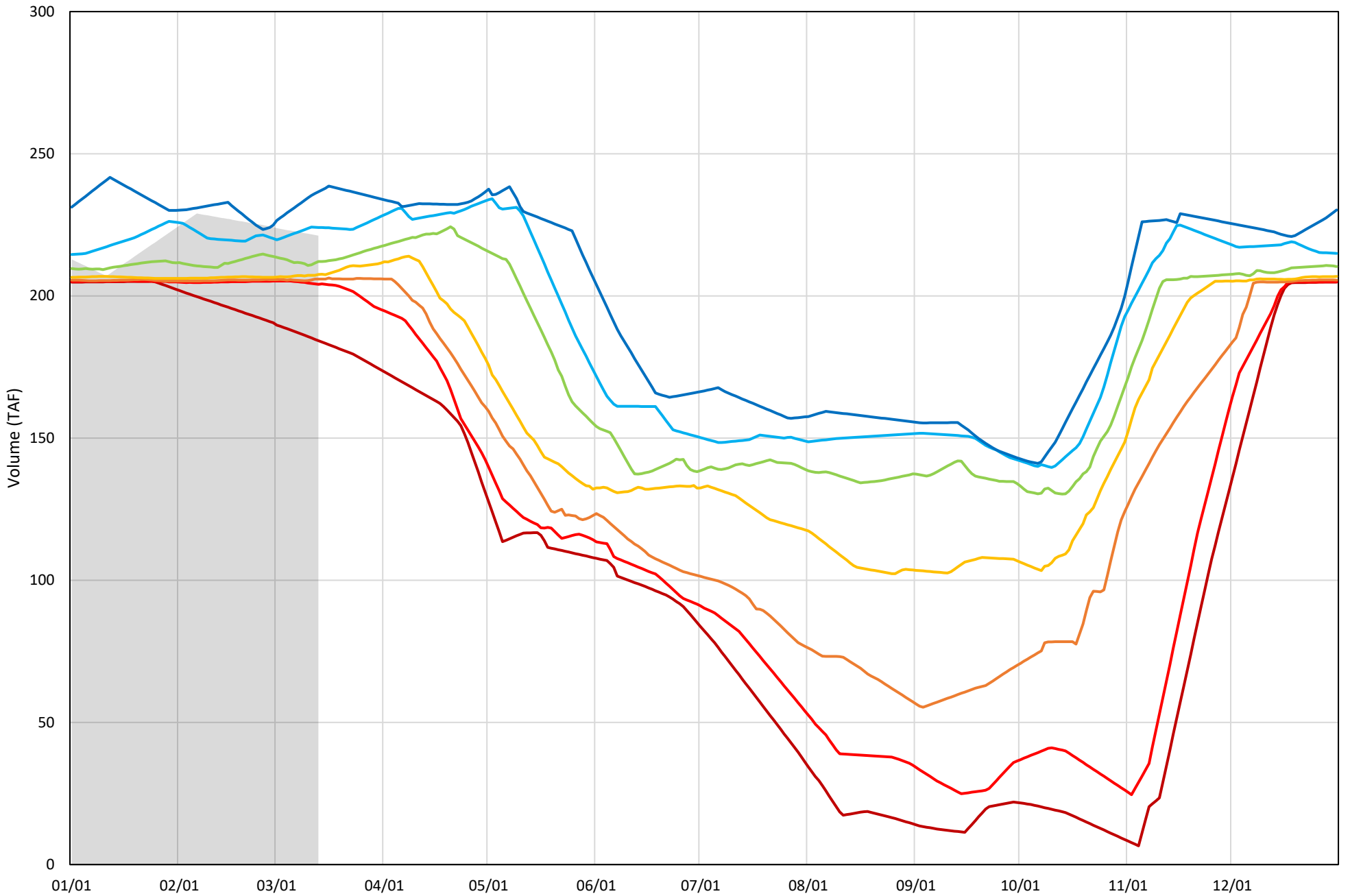
Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



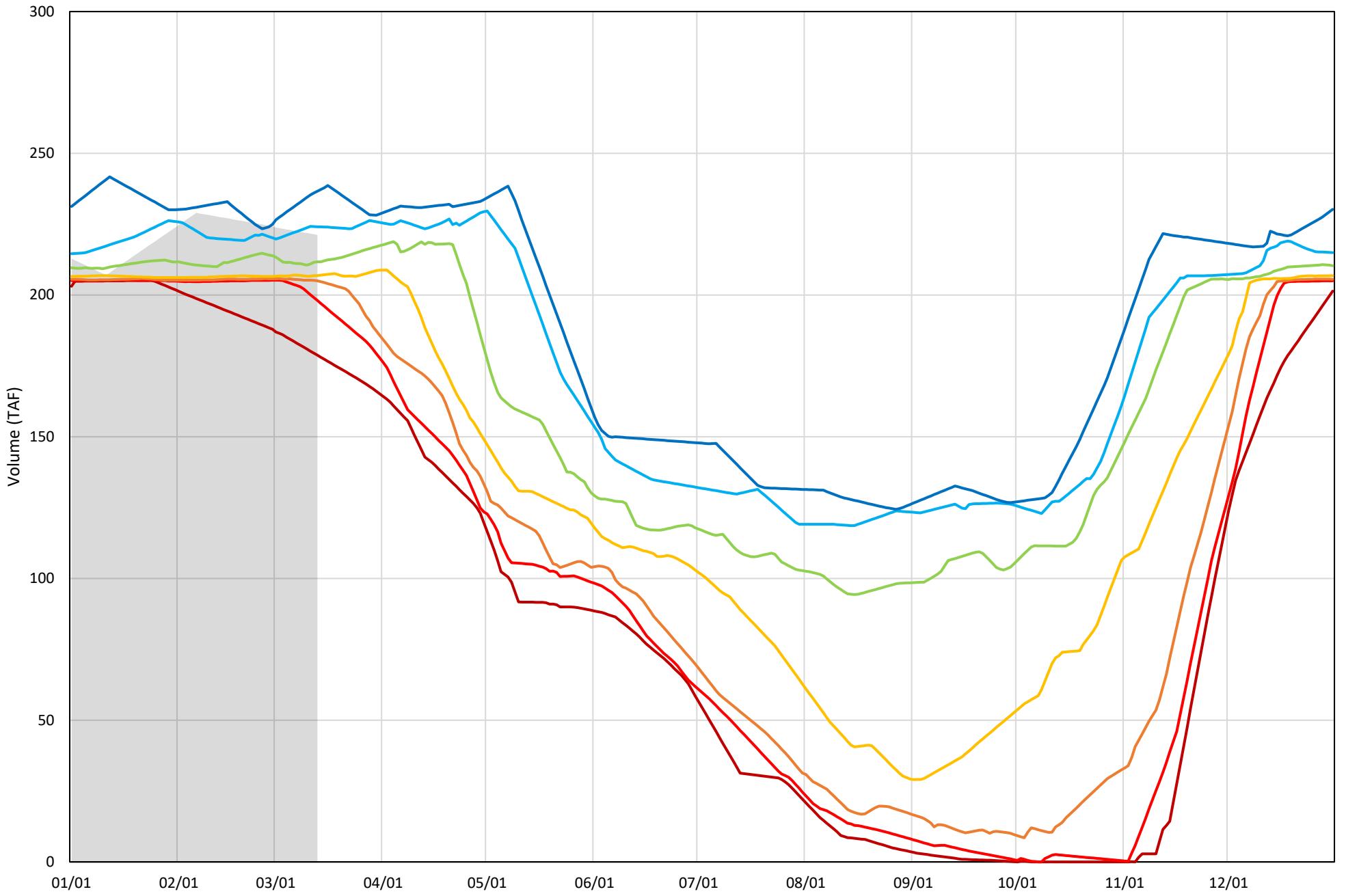
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



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

Mar-14 2024	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	-16.6	-16.6	-16.6	16.6	-7.5	-7.5	-7.5	7.5
2001	-9.4	-12.6	-21.4	14.5	-4.2	-5.7	-9.7	6.5
2002	-16.1	-16.1	-16.1	16.1	-7.3	-7.3	-7.3	7.3
2003	-14.5	-14.5	-14.5	14.5	-6.6	-6.6	-6.6	6.6
2004	-13.2	-17.7	-25.0	18.6	-6.0	-8.0	-11.3	8.4
2005	-13.5	-13.5	-13.5	13.5	-6.1	-6.1	-6.1	6.1
2006	-15.4	-15.4	-15.4	15.4	-6.9	-6.9	-6.9	6.9
2007	-13.9	-13.9	-15.8	14.5	-6.3	-6.3	-7.1	6.6
2008	-10.6	-10.6	-10.6	10.6	-4.8	-4.8	-4.8	4.8
2009	-8.8	-8.8	-8.8	8.8	-4.0	-4.0	-4.0	4.0
2010	-9.6	-9.6	-9.6	9.6	-4.4	-4.4	-4.4	4.4
2011	-8.8	-8.8	-8.8	8.8	-4.0	-4.0	-4.0	4.0
2012	-40.9	-43.4	-48.3	44.2	-18.5	-19.6	-21.8	20.0
2013	-15.9	-15.9	-16.3	16.0	-7.2	-7.2	-7.4	7.2
2014	-8.9	-8.9	-9.5	9.1	-4.0	-4.0	-4.3	4.1
2015	-15.0	-15.0	-15.0	15.0	-6.8	-6.8	-6.8	6.8
2016	19.2	19.2	19.2	19.2	8.7	8.7	8.7	8.7
2017	-12.3	-12.3	-12.3	12.3	-5.6	-5.6	-5.6	5.6
2018	-14.7	-14.7	-14.7	14.7	-6.6	-6.6	-6.6	6.6
2019	4.0	4.0	4.0	4.0	1.8	1.8	1.8	1.8
2020	-14.7	-14.7	-18.5	15.9	-6.6	-6.6	-8.4	7.2
2021	-14.2	-14.2	-14.2	14.2	-6.4	-6.4	-6.4	6.4
2022	-10.3	-10.3	-10.3	10.3	-4.7	-4.7	-4.7	4.7
2023	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Historical - Current

(Historical - Current) / Current