

Northern CVP Water Temperature Report

September - 2024

Page	Description
2	- Mean Daily Water Temperature, Release Flow Rates and Air Temperatures with Monthly Averages
3	- Sacramento River Mean Daily Water Temperature Plot
4	- Trinity River Mean Daily Water Temperature Plot
5	- Shasta Lake Isothermobaths & Cold Water Pool Statistics
14	- Trinity Lake Isothermobaths & Cold Water Pool Statistics
23	- Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics
x	- TCD Configuration (External Link)



— 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
Aug	51.2	50.4	57.3	52.2	52.7	53.4	54.8	56.2	57.8	58.5	50.2	57.8	63.1	11457	1185	13246	89.8	83.3	83.8
09/01	50.7	49.6	57.0	52.0	52.6	53.4	55.0	56.7	58.5	58.5	49.9	57.1	62.5	7371	1373	9523	81.0	75.1	75.8
09/02	50.8	? 49.8	56.9	52.0	52.6	53.5	55.0	56.5	58.1	58.0	49.9	56.9	62.1	8167	1241	9359	74.5	70.2	69.8
09/03	50.1	? 49.5	56.8	52.1	52.6	53.4	54.7	56.1	57.8	58.0	49.9	56.4	61.6	7736	1379	9375	78.5	73.0	75.8
09/04	50.0	49.2	56.9	51.9	52.6	53.7	55.0	56.4	57.9	58.1	50.2	56.1	60.9	7266	1372	9059	82.5	76.6	80.5
09/05	50.1	49.2	56.9	51.6	52.2	53.2	54.8	56.6	58.1	58.5	50.3	57.0	61.6	7162	1268	9042	86.0	78.3	80.3
09/06	50.2	? 49.3	56.9	51.6	52.2	53.2	54.7	56.5	58.1	58.6	49.7	56.8	61.8	7457	1221	9149	85.5	78.4	81.4
09/07	50.1	49.2	56.9	51.6	52.2	53.3	54.8	56.6	? 58.3	58.3	49.6	56.4	61.4	7693	1196	9183	83.5	76.6	78.0
09/08	50.2	49.2	56.9	51.5	52.1	53.0	54.4	56.0	57.8	57.7	49.5	55.6	60.8	7390	1163	9183	78.0	71.5	74.0
09/09	50.8	49.5	56.9	51.5	52.1	52.9	54.3	55.8	? 57.3	57.6	49.4	55.1	59.9	7408	1167	9186	80.5	73.5	77.3
09/10	50.8	49.5	56.7	51.6	52.1	53.1	54.5	56.0	57.5	58.1	49.2	56.0	60.4	6953	1255	8633	78.5	73.0	73.1
09/11	50.4	? 49.4	56.8	52.3	52.7	53.4	54.8	56.3	57.7	57.1	49.4	55.4	59.5	6688	1276	8609	73.5	69.3	69.5
09/12	50.4	? 49.5	56.7	51.9	52.5	53.5	54.9	56.3	57.6	57.7	50.0	54.6	58.9	6774	1193	8687	77.0	68.3	71.5
09/13	50.2	49.4	56.7	51.7	52.3	53.4	55.0	56.2	57.6	57.6	49.9	55.2	59.4	6377	1184	8034	80.0	70.8	72.0
09/14	50.3	49.3	56.6	51.7	52.3	53.2	54.8	56.1	57.5	56.9	49.6	55.3	59.5	6890	978	8109	75.5	70.0	71.5
09/15	50.3	49.3	56.7	51.6	52.1	52.8	54.7	56.2	57.6	57.2	49.5	56.0	59.7	6482	1219	8108	70.0	68.1	68.0
09/16	51.1	? 49.4	56.7	51.7	52.1	52.6	54.2	55.5	56.7	56.4	49.6	54.9	59.2	6066	1351	8186	63.5	61.0	61.5
09/17	51.2	? 49.5	56.5	51.5	51.8	52.4	53.9	55.2	56.5	56.6	49.3	54.5	58.3	5976	1031	8214	68.5	65.3	65.1
09/18	51.0	49.2	56.5	51.7	52.2	53.0	54.3	55.4	56.6	57.4	49.2	55.2	59.1	6610	1094	8236	73.0	67.6	68.1
09/19	50.9	49.2	56.5	51.6	52.2	53.2	54.8	56.0	57.5	57.5	49.0	54.8	59.1	6575	1188	8108	75.5	70.3	71.9
09/20	50.8	? 49.2	56.5	51.6	52.1	53.0	54.8	56.0	57.6	57.3	48.9	54.6	59.1	6034	1096	8093	79.0	73.0	75.0
09/21	50.8	49.2	56.4	51.6	52.2	53.1	54.8	55.9	57.5	57.3	49.0	54.4	58.9	6530	1105	8063	81.0	72.9	74.5
09/22	50.8	49.2	56.4	51.5	52.0	52.9	54.5	55.6	57.2	57.3	49.1	54.0	58.4	6480	1147	8053	78.5	70.7	74.5
09/23	50.9	49.4	56.3	51.7	52.2	53.3	54.7	55.7	57.1	57.6	49.1	54.3	58.4	5637	1119	7645	82.5	73.8	77.3
09/24	50.9	49.4	56.3	51.6	52.2	53.2	54.9	56.0	57.6	57.4	49.1	54.5	58.7	5736	1134	7556	79.5	72.6	75.3
09/25	51.1	? 49.7	56.2	51.6	52.2	53.1	54.9	56.0	57.5	57.2	49.1	54.5	58.5	5457	1166	7567	68.5	70.7	71.3
09/26	50.7	? 49.7	56.2	51.8	52.3	53.1	54.8	55.9	57.4	57.0	49.2	54.6	58.8	5752	1053	7551	75.5	69.9	71.1
09/27	50.7	? 49.8	56.1	51.9	52.4	53.3	54.8	55.7	57.1	56.9	49.1	54.2	58.6	5984	1010	7556	77.0	71.5	71.6
09/28	50.8	? 49.9	56.2	51.9	52.3	53.2	54.9	55.9	57.3	56.6	48.9	53.9	58.1	5970	1037	7551	76.0	69.6	72.8
09/29	50.7	? 50.1	56.1	52.0	52.5	53.2	54.8	55.7	57.1	56.5	49.0	53.8	58.0	5455	1066	7548	77.0	70.3	71.6
09/30	51.1	? 50.6	56.1	52.2	52.7	53.5	55.0	55.8	57.1	56.5	48.9	53.3	57.3	6057	1332	7517	86.5	79.9	81.3
-																			
Sep	50.6	49.5	56.6	51.8	52.3	53.2	54.7	56.0	57.5	57.5	49.4	55.2	59.6	6604	1180	8356	77.5	71.7	73.4
														Total CFS	198133	35414	250683		
														Total AF	392989	70242	497220		

Legend

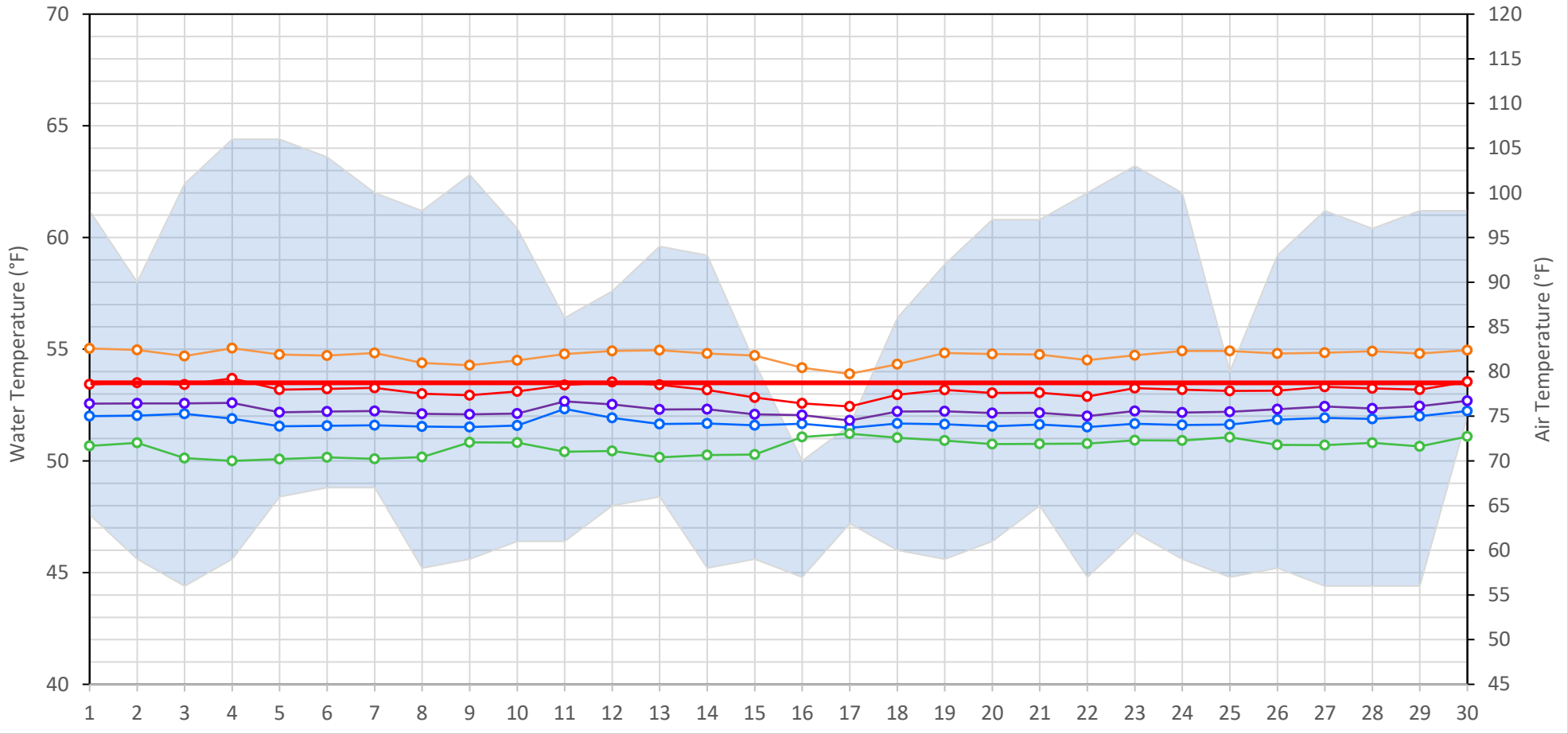
- ? = 1-9 hours of data missing (Average includes estimations)
- ! = 10 or more hours of data missing (Average not calculated)
- # = Station out of service
- ↑ = Record high air temperature
- ↓ = Record low air temperature
- = Monthly Averages

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) KWK SAC CCR BSF TCD



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

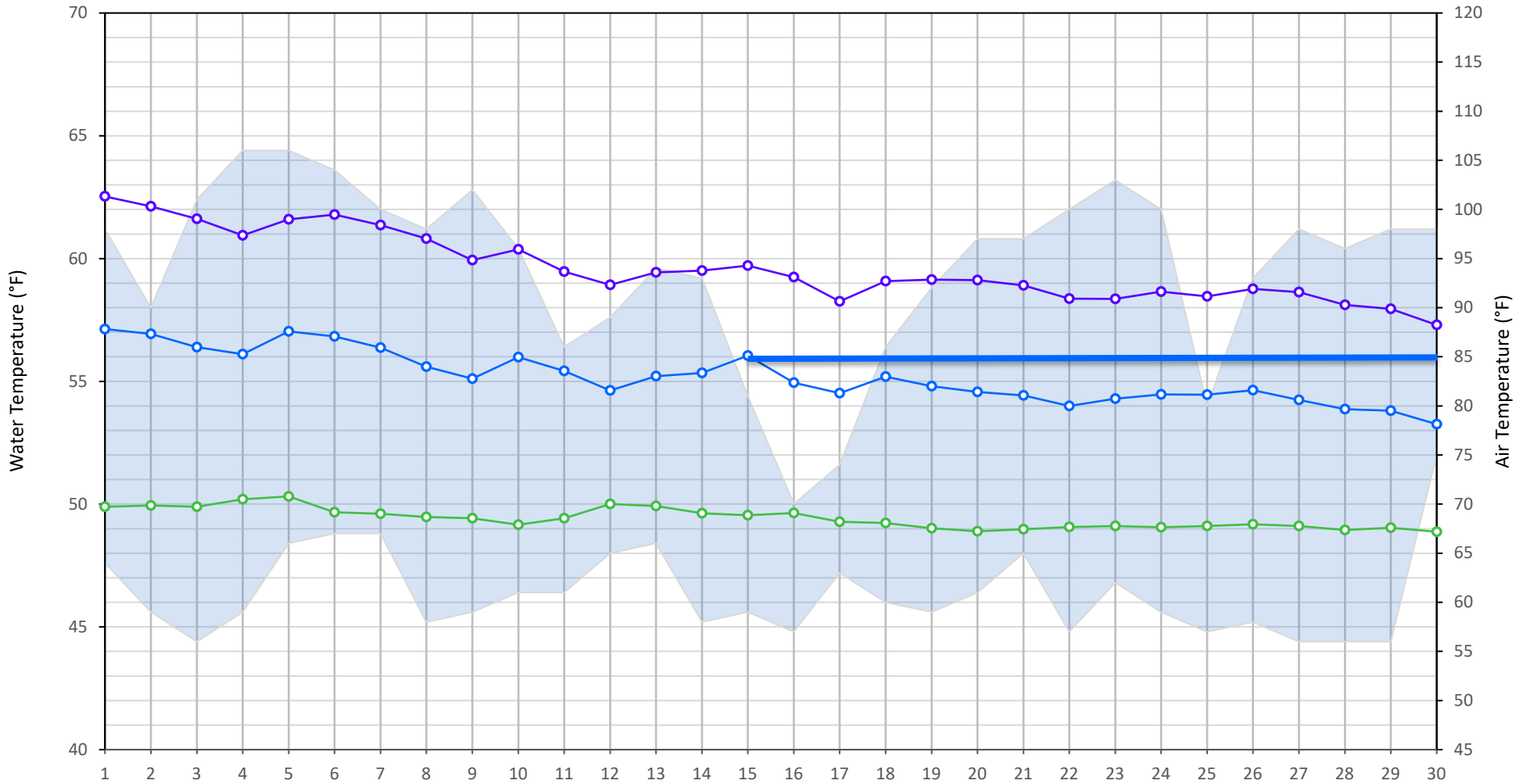
Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	CCR	53.5	05/24/2024	TBD

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
Trinity	DGC	56	Sep-15	Oct-01
Trinity	NFH	56	Oct-01	Dec-31

Notes

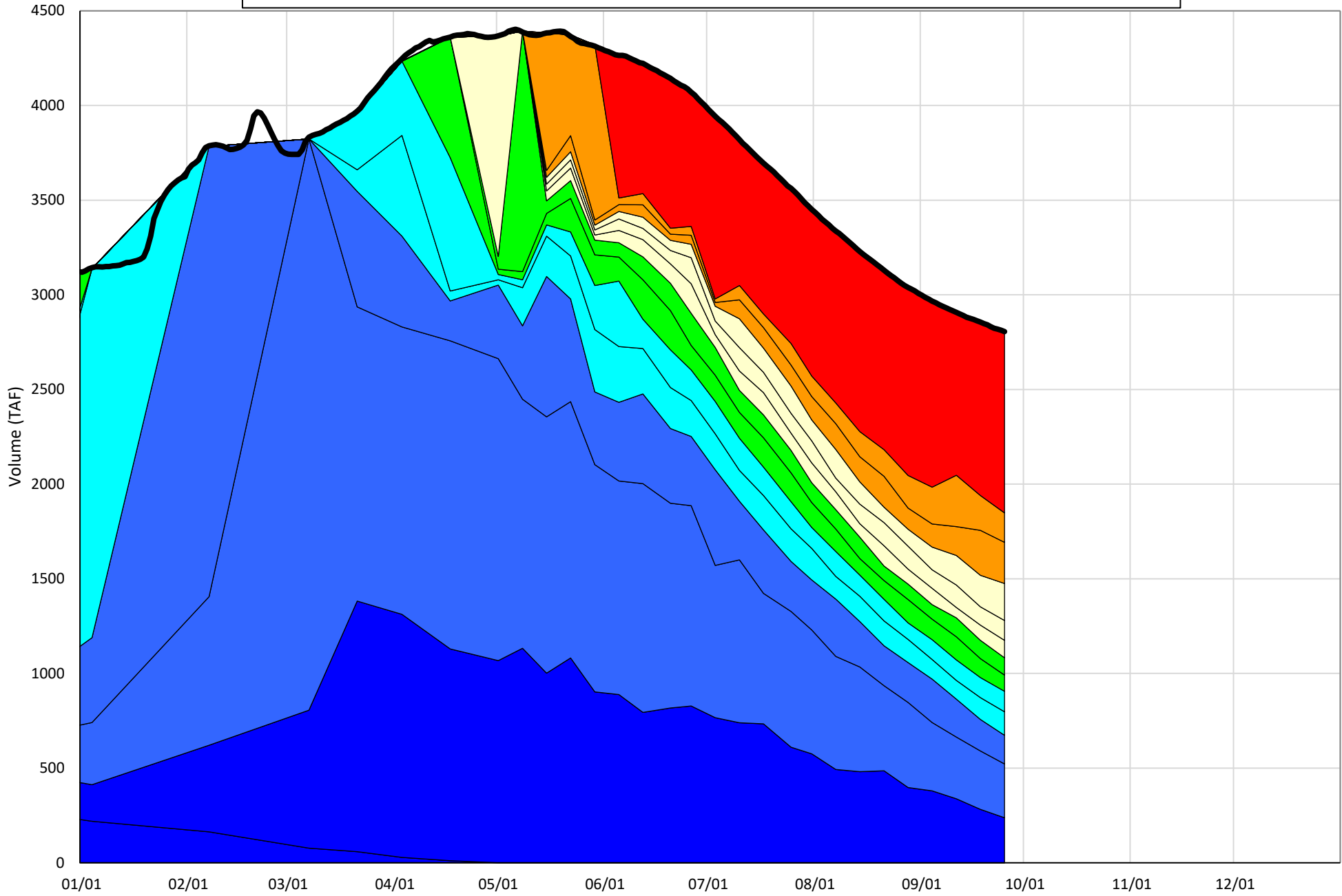
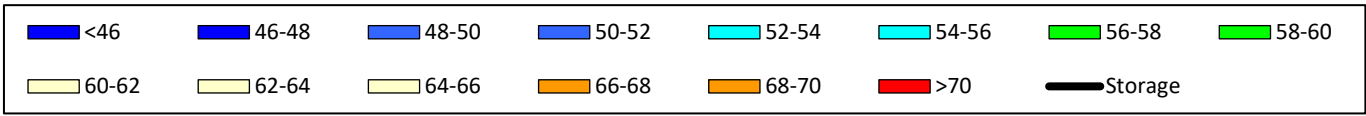
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

2024

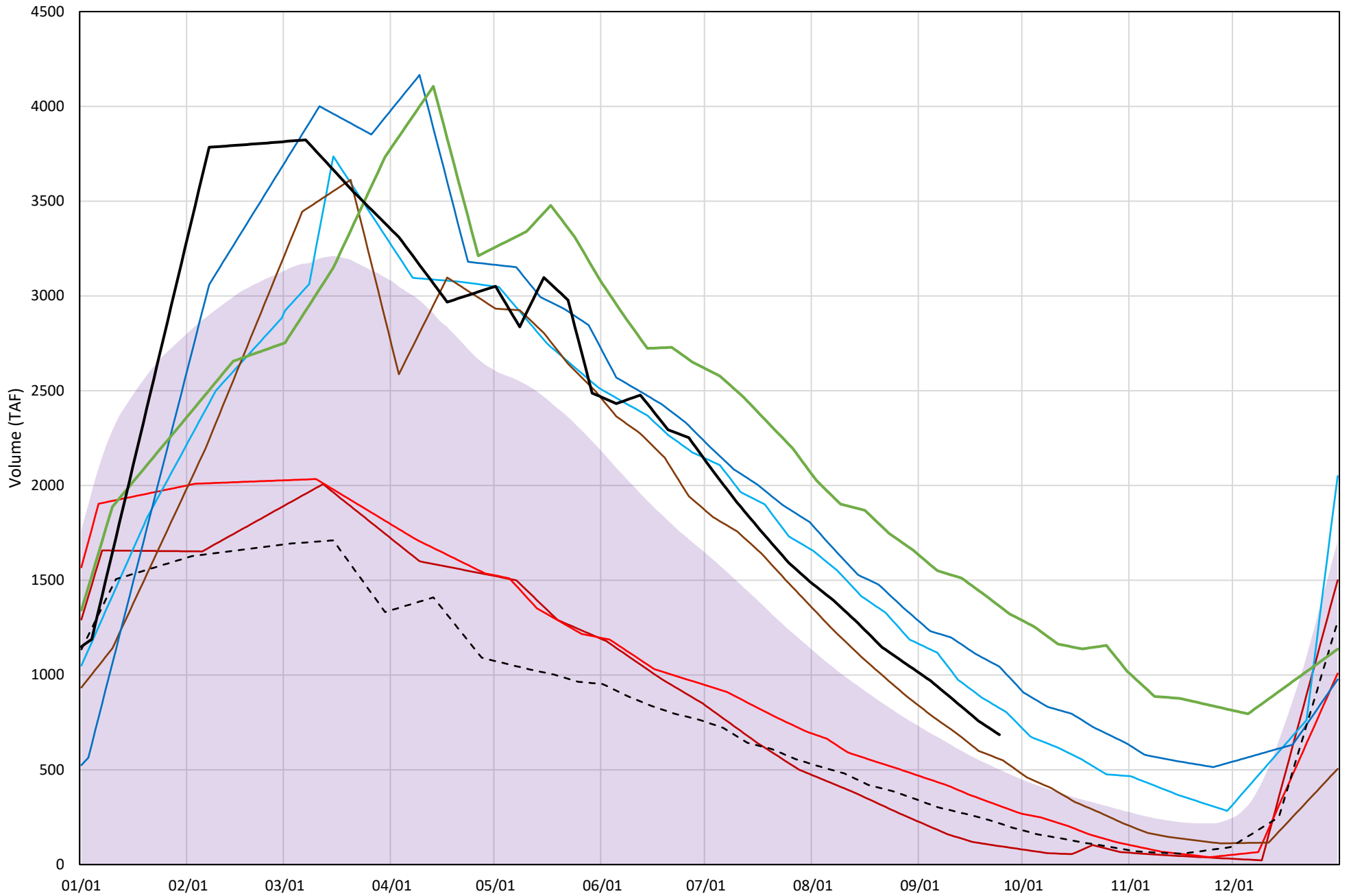
Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
8	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
9	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
10	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - 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 - 2024

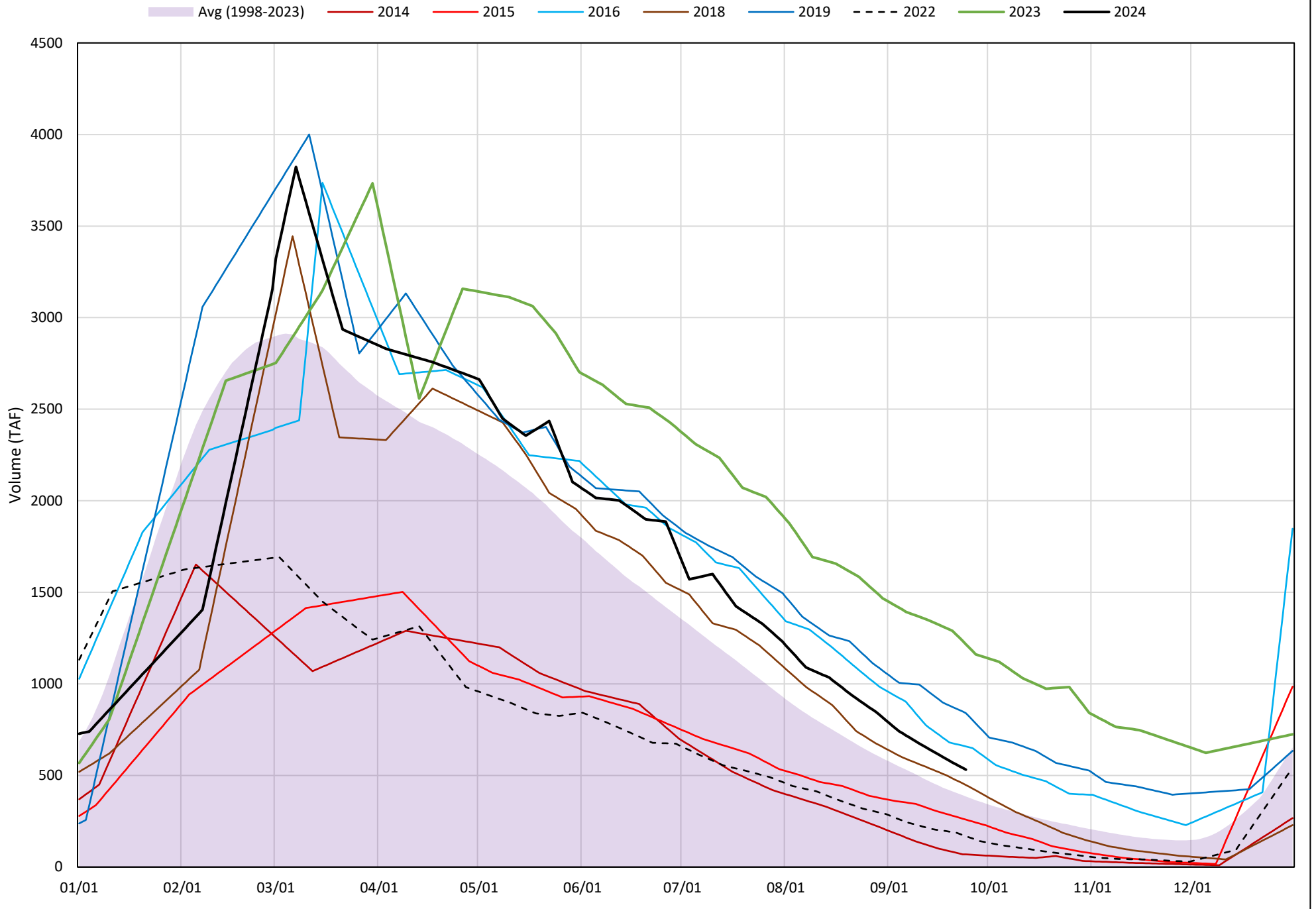


Shasta Lake Cold Water Pool Volume ≤52°F

Avg (1998-2023) 2014 2015 2016 2018 2019 2022 2023 2024

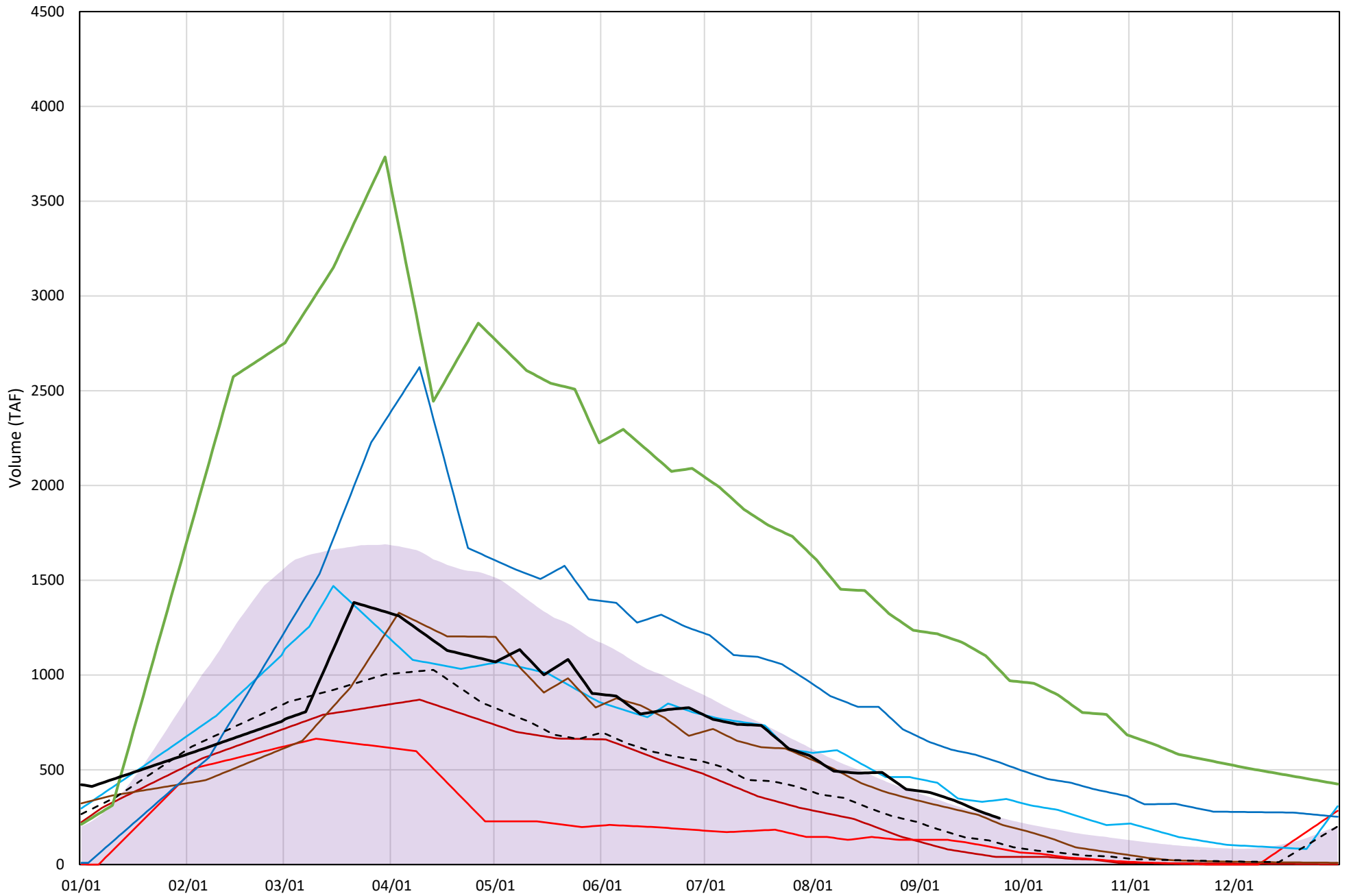


Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$



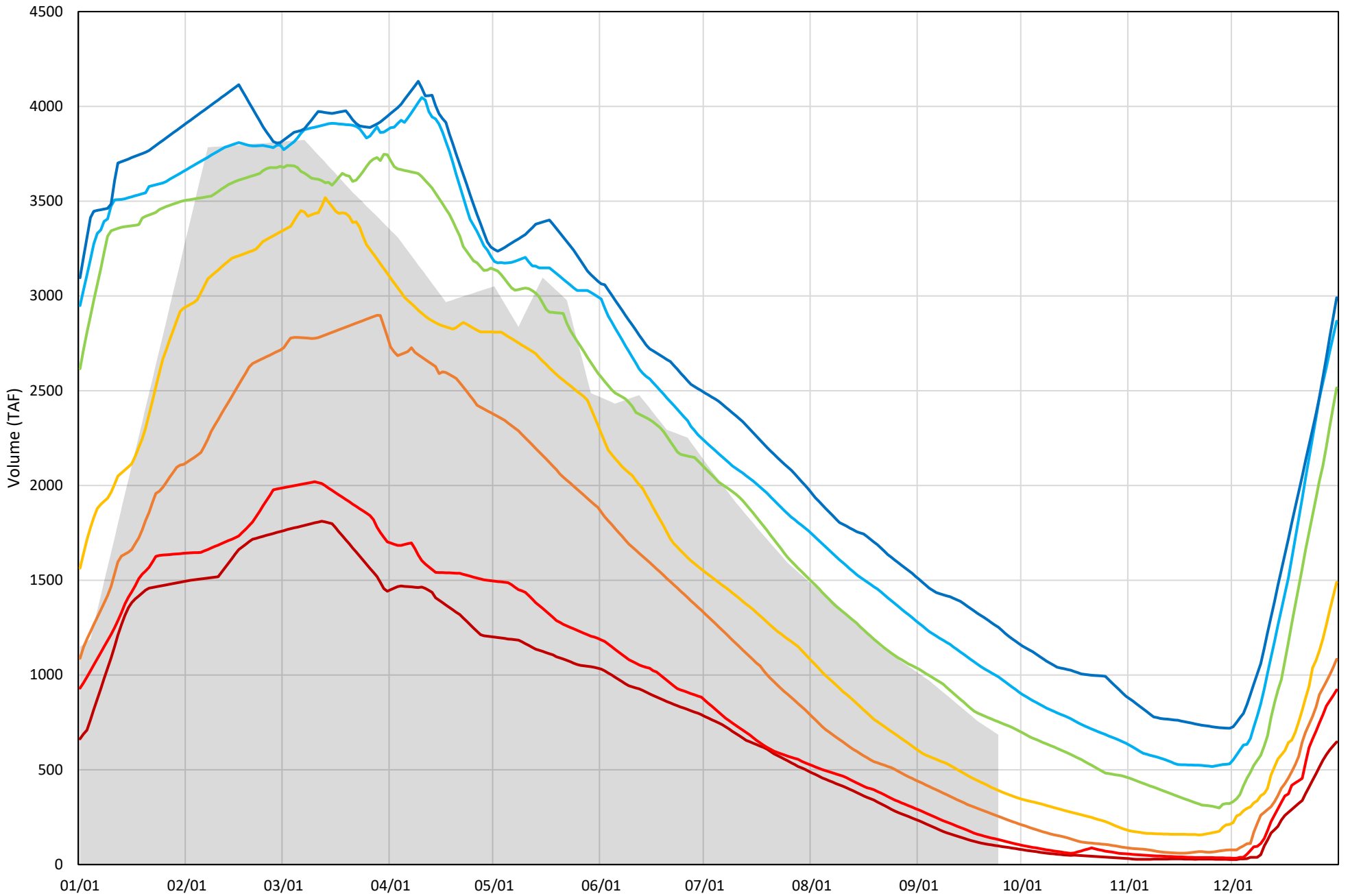
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (1998-2023) 2014 2015 2016 2018 2019 2022 2023 2024



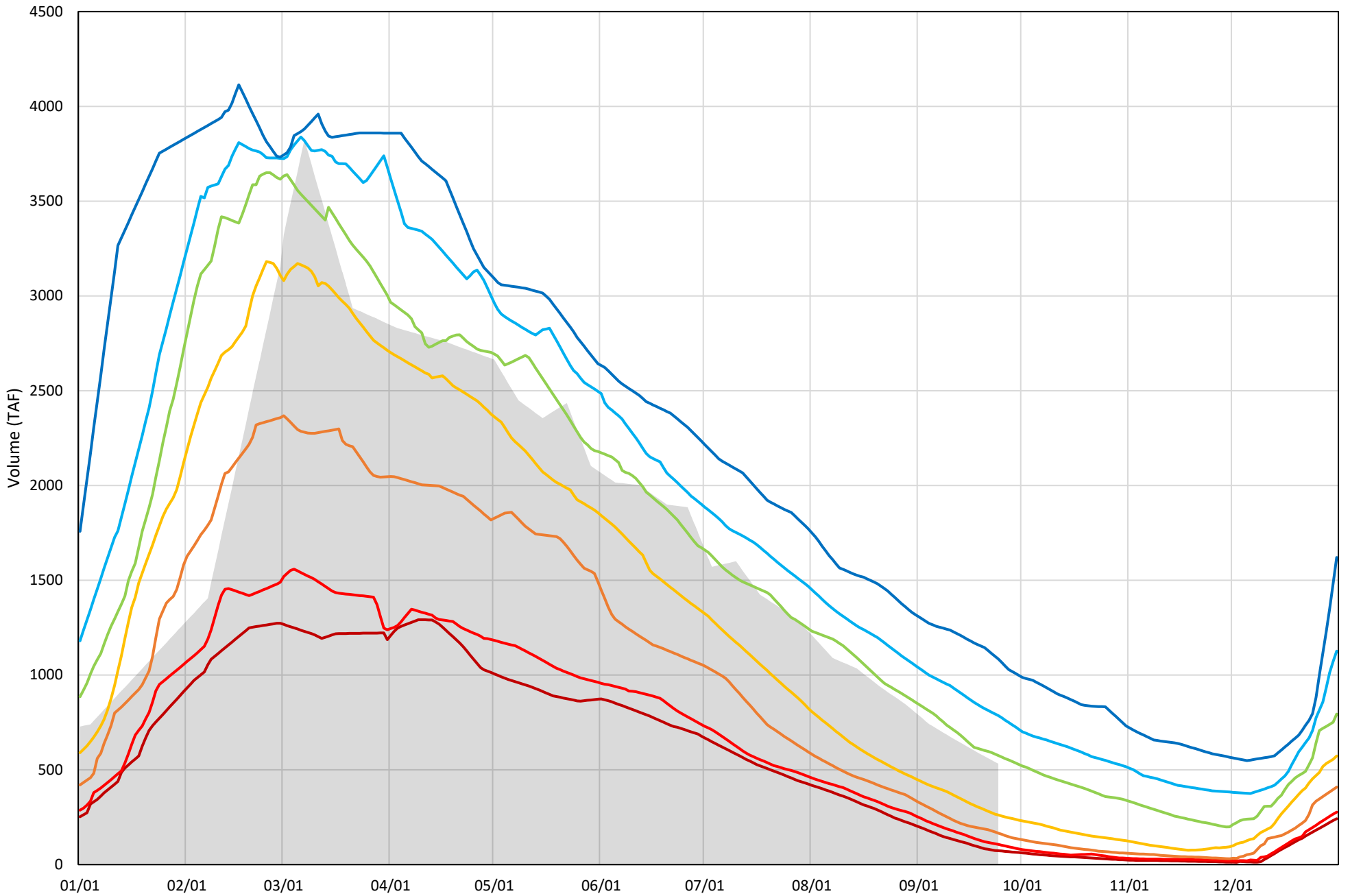
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



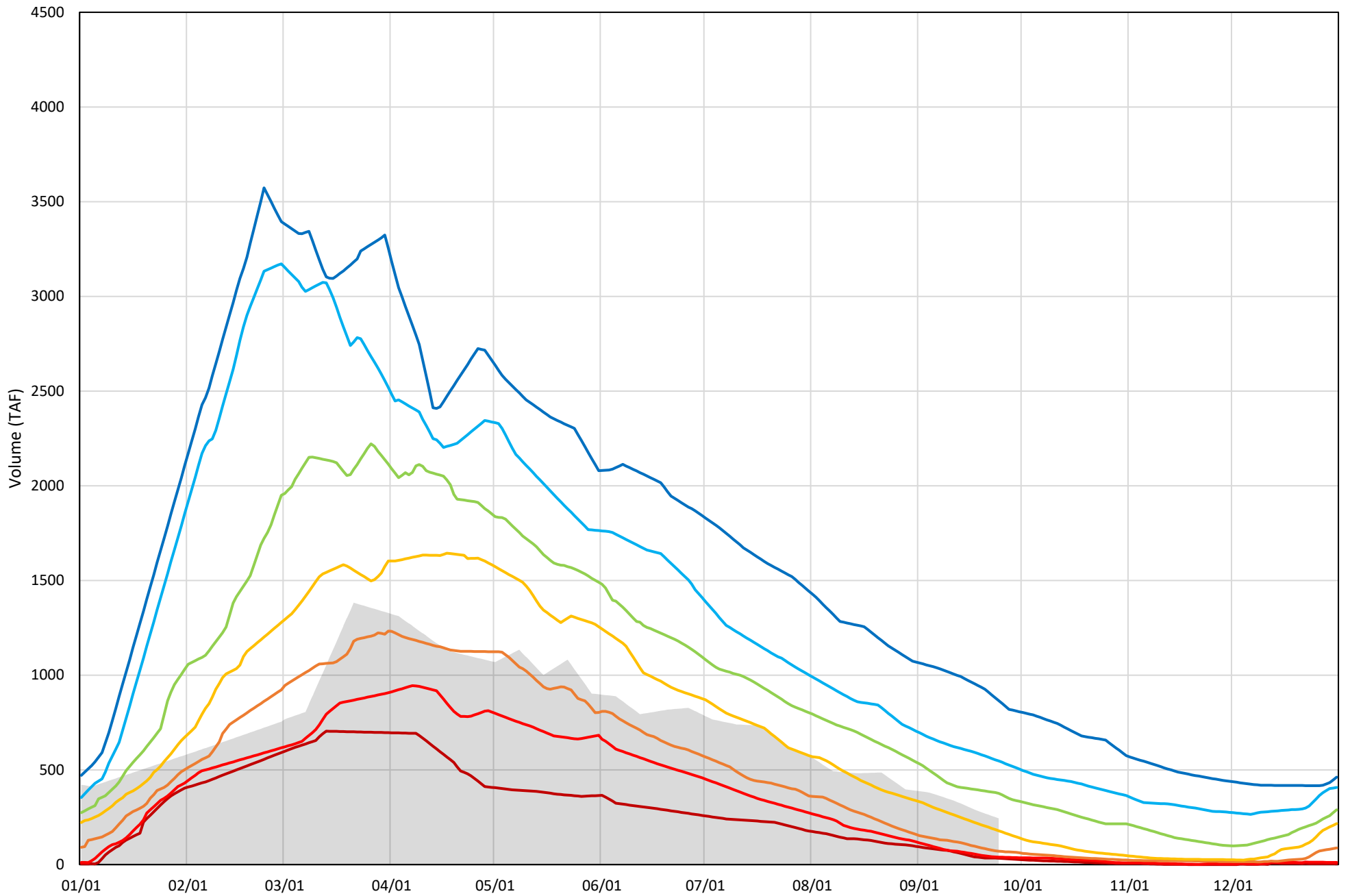
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

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)

Sep-25 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	-374	-384	-214	324	-55	-72	-88	71
1999	50	53	191	98	7	10	78	32
2000	-308	-315	-182	268	-45	-59	-75	60
2001	-359	-272	-51	227	-52	-51	-21	41
2002	-182	-117	134	144	-27	-22	55	34
2003	-181	-276	-186	214	-26	-52	-76	51
2004	-487	-403	-175	355	-71	-76	-72	73
2005	-434	-376	-173	328	-63	-71	-71	68
2006	-153	-115	21	96	-22	-22	8	17
2007	-406	-303	-81	263	-59	-57	-33	50
2008	-540	-414	-159	371	-79	-78	-65	74
2009	-429	-330	-99	286	-63	-62	-41	55
2010	123	40	77	80	18	8	31	19
2011	282	231	322	278	41	43	132	72
2012	-31	17	130	60	-5	3	53	20
2013	-296	-184	31	170	-43	-35	13	30
2014	-588	-463	-204	418	-86	-87	-84	85
2015	-375	-273	-160	269	-55	-51	-66	57
2016	141	127	97	122	21	24	40	28
2017	218	129	221	189	32	24	91	49
2018	-128	-84	-29	80	-19	-16	-12	15
2019	359	309	294	321	52	58	120	77
2020	-293	-270	-145	236	-43	-51	-59	51
2021	-585	-452	-207	415	-85	-85	-84	85
2022	-468	-363	-133	321	-68	-68	-54	64
2023	679	684	782	715	99	129	320	183
2024	0	0	0	0	0	0	0	0

Historical - Current

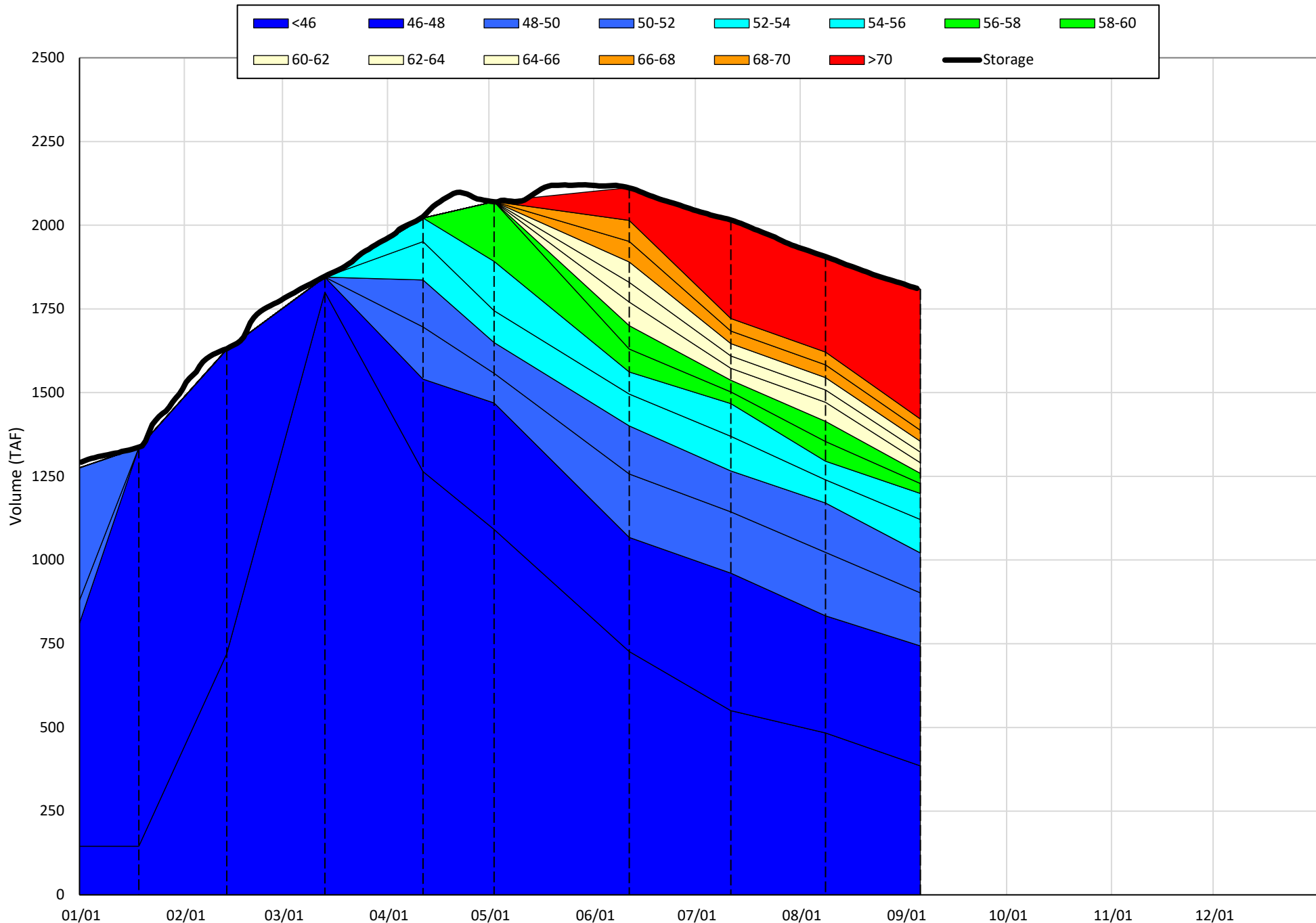
(Historical - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2024

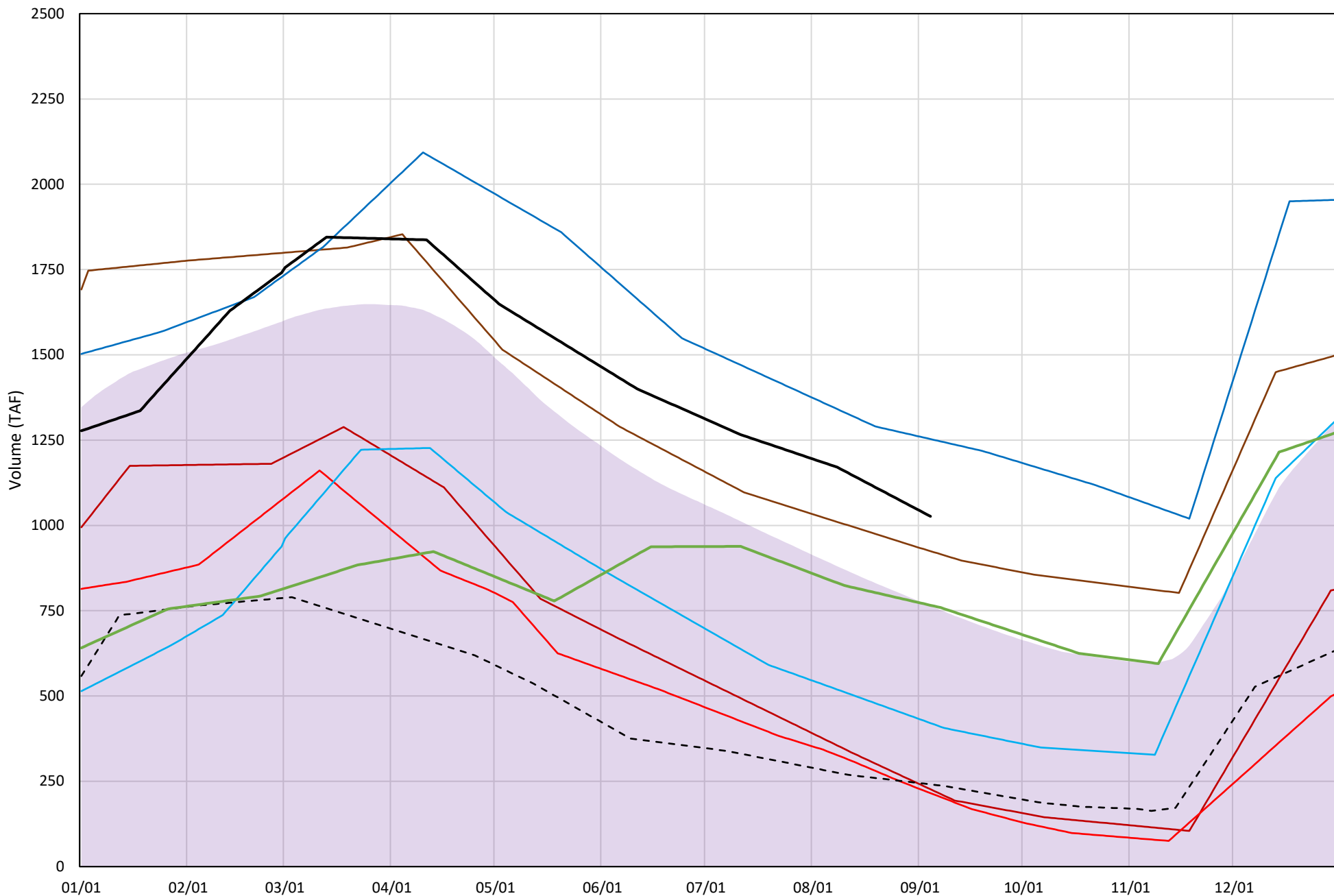
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq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



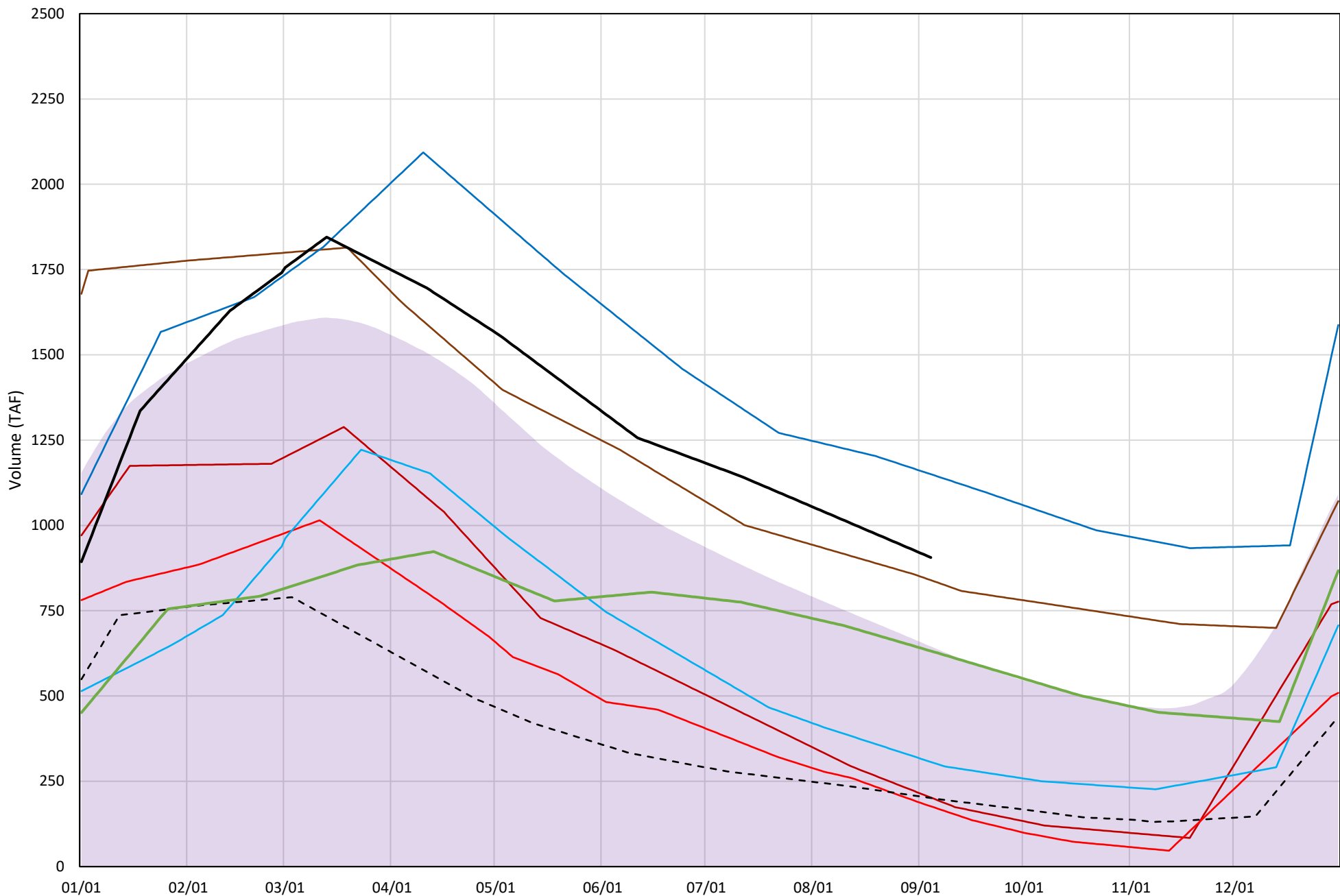
Trinity Lake Cold Water Pool Volume ≤52°F

Avg (2000-2023) 2014 2015 2016 2018 2019 2022 2023 2024



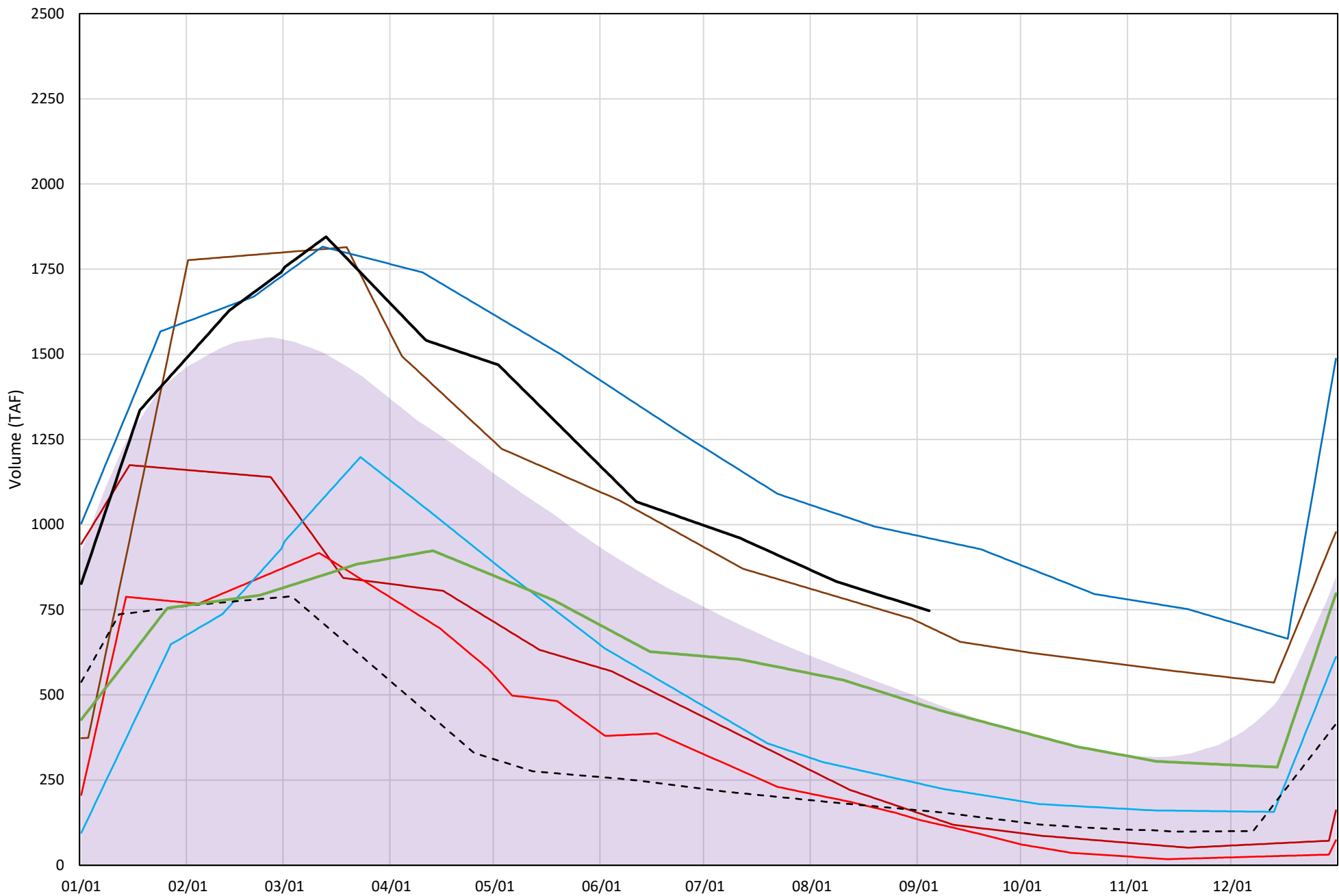
Trinity Lake Cold Water Pool Volume ≤50°F

Avg (2000-2023) 2014 2015 2016 2018 2019 2022 2023 2024



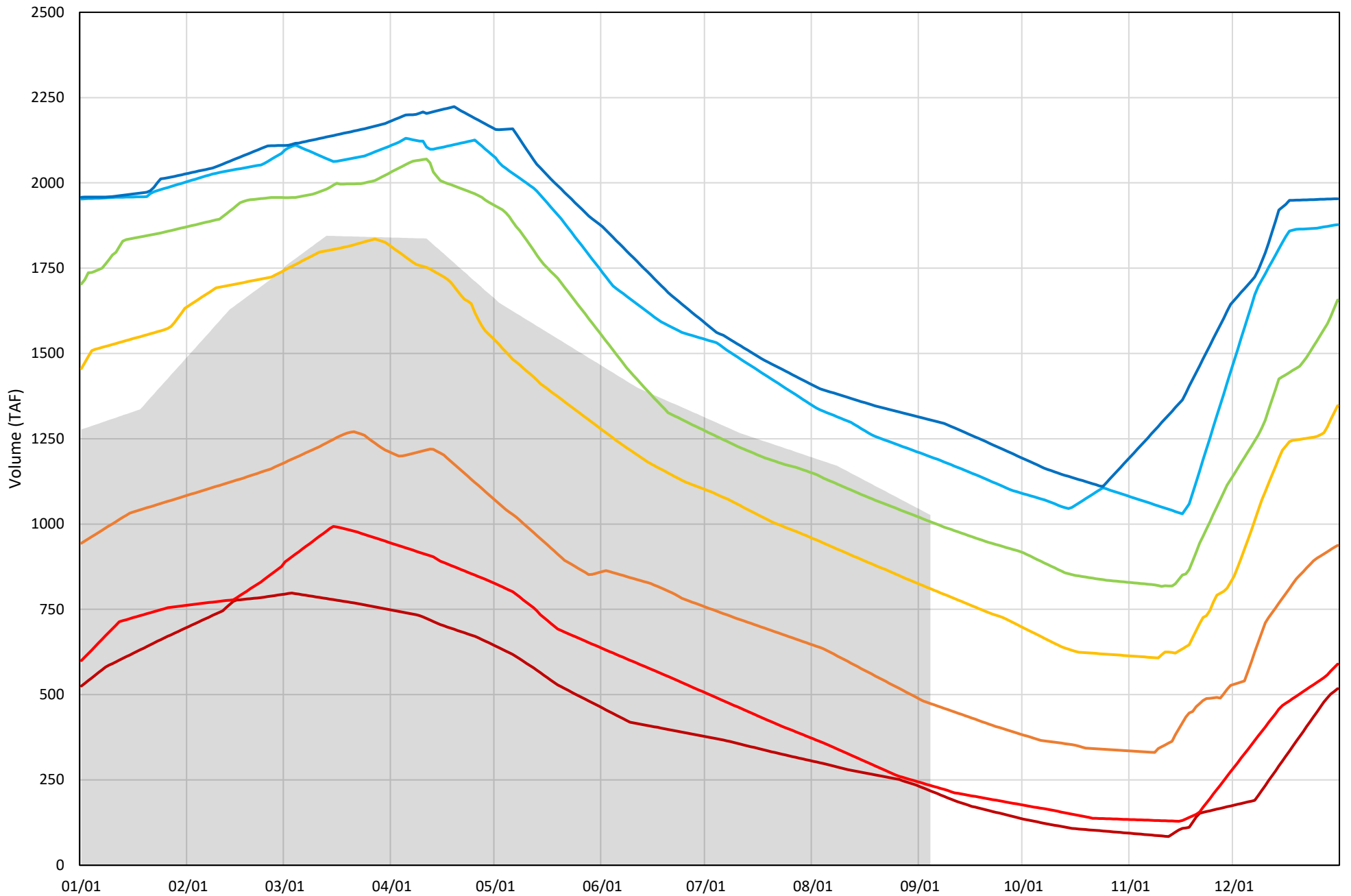
Trinity Lake Cold Water Pool Volume ≤48°F

Avg (2000-2023) 2014 2015 2016 2018 2019 2022 2023 2024



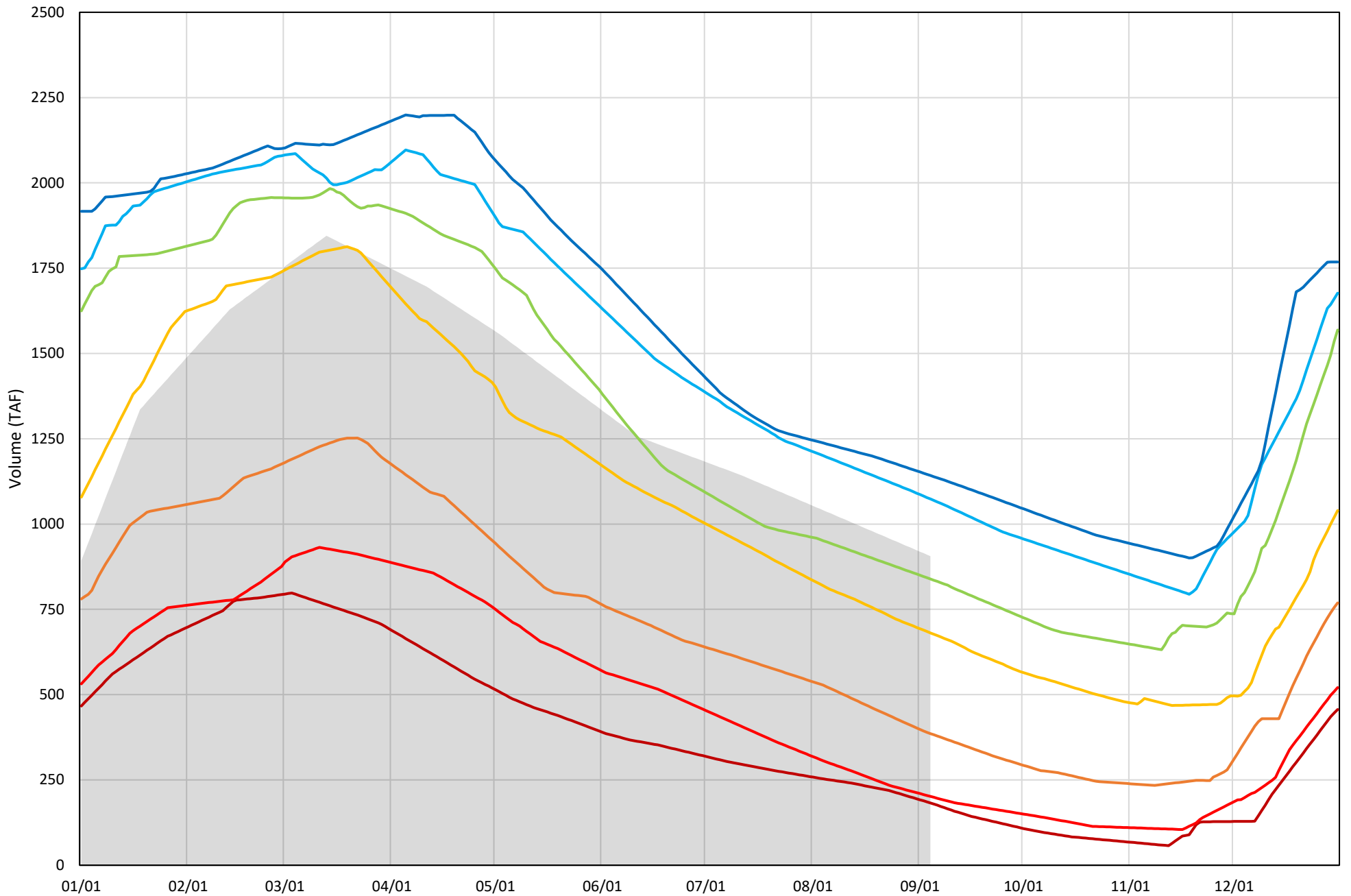
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



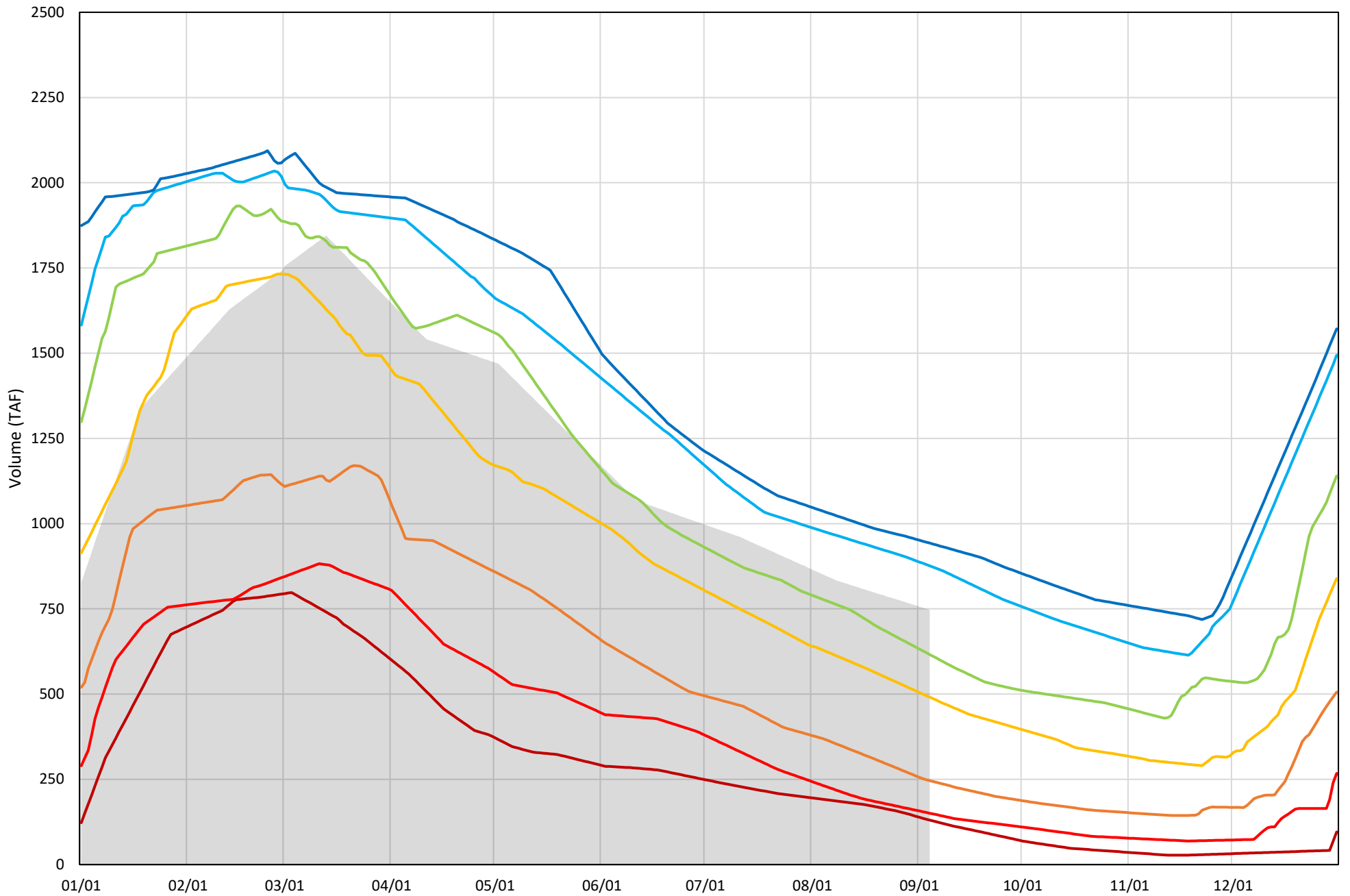
Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

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)

Sep-05 2024	Δ TAF				% Δ			
	$\leq 52^\circ$	$\leq 50^\circ$	$\leq 48^\circ$	Abs. Avg.	$\leq 52^\circ$	$\leq 50^\circ$	$\leq 48^\circ$	Abs. Avg.
2000	-124	-202	-253	193	-12	-22	-34	23
2001	-245	-231	-229	235	-24	-25	-31	27
2002	-237	-206	-171	205	-23	-23	-23	23
2003	73	-50	-156	93	7	-6	-21	11
2004	-185	-219	-284	229	-18	-24	-38	27
2005	-3	-68	-260	110	0	-8	-35	14
2006	115	57	-48	73	11	6	-6	8
2007	-183	-159	-123	155	-18	-18	-16	17
2008	-490	-490	-466	482	-48	-54	-62	55
2009	-574	-530	-512	539	-56	-58	-69	61
2010	-194	-263	-380	279	-19	-29	-51	33
2011	296	213	114	208	29	24	15	23
2012	83	122	144	116	8	13	19	14
2013	-386	-351	-329	355	-38	-39	-44	40
2014	-800	-704	-604	703	-78	-78	-81	79
2015	-811	-729	-621	720	-79	-80	-83	81
2016	-606	-599	-514	573	-59	-66	-69	65
2017	-71	-159	-206	145	-7	-18	-28	17
2018	-102	-67	-48	72	-10	-7	-6	8
2019	227	244	213	228	22	27	29	26
2020	-304	-242	-218	255	-30	-27	-29	28
2021	-732	-646	-558	646	-71	-71	-75	72
2022	-786	-705	-589	693	-77	-78	-79	78
2023	-261	-274	-283	272	-25	-30	-38	31
2024	0	0	0	0	0	0	0	0

Historical - Current

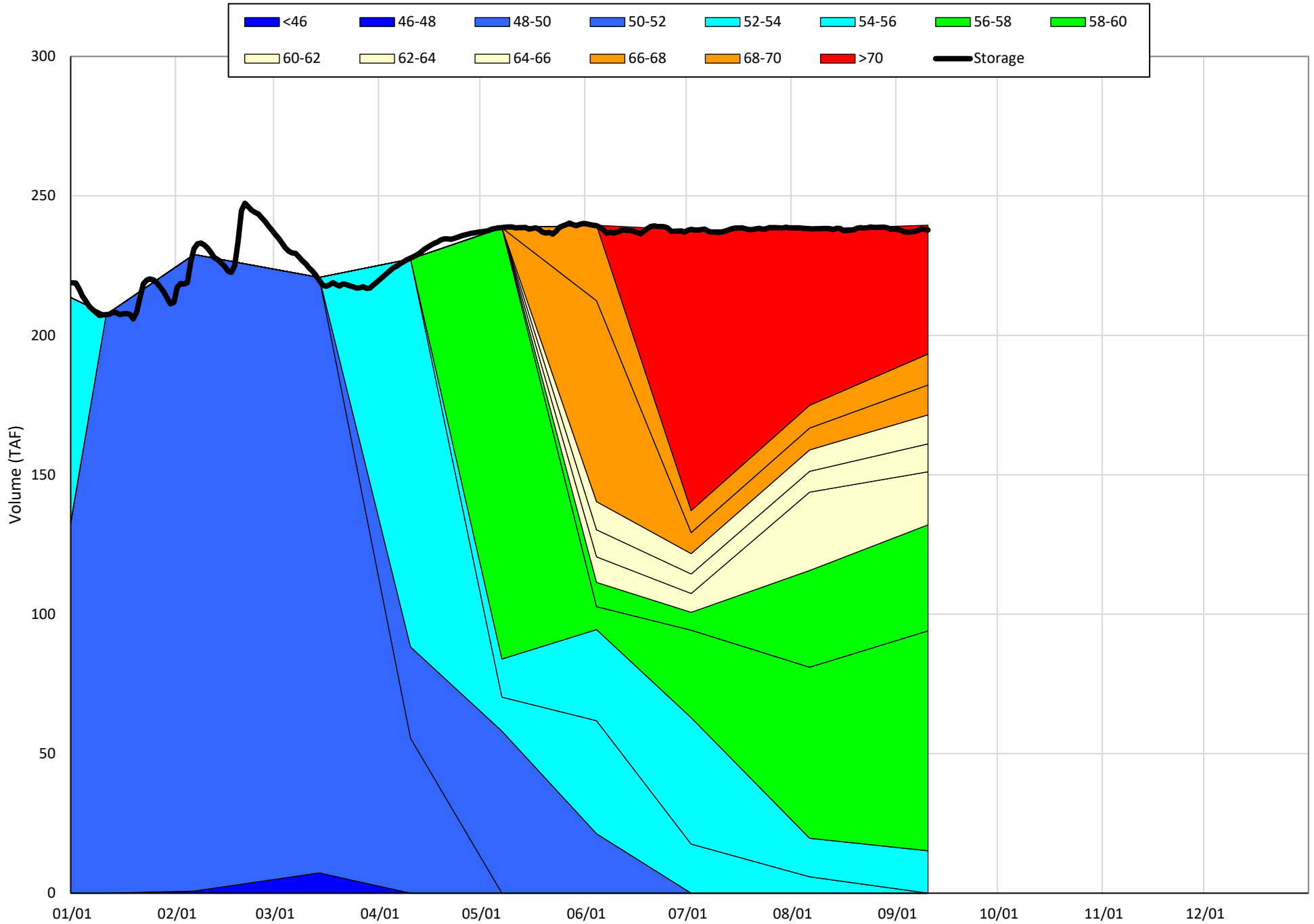
(Historical - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

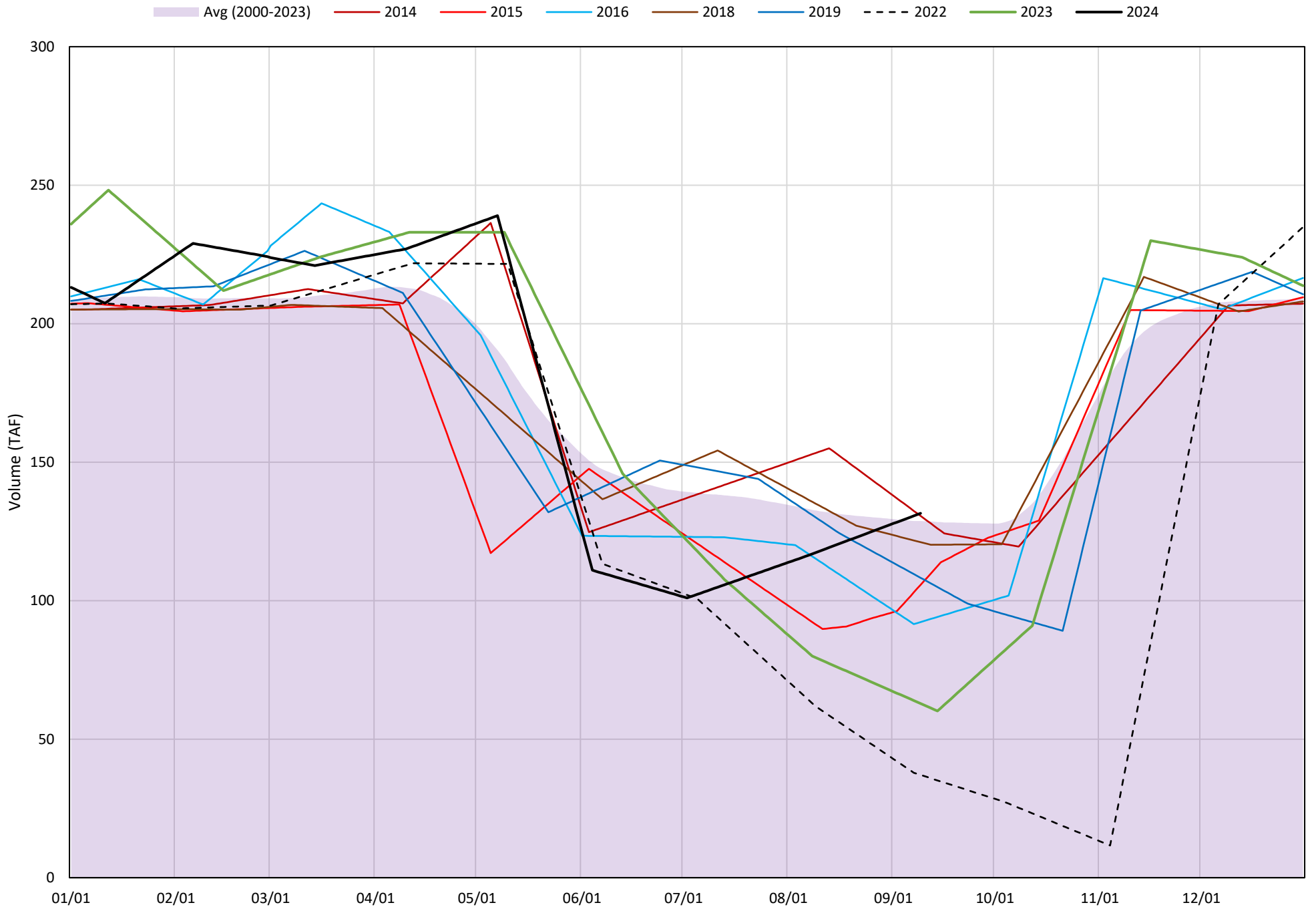
2024

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

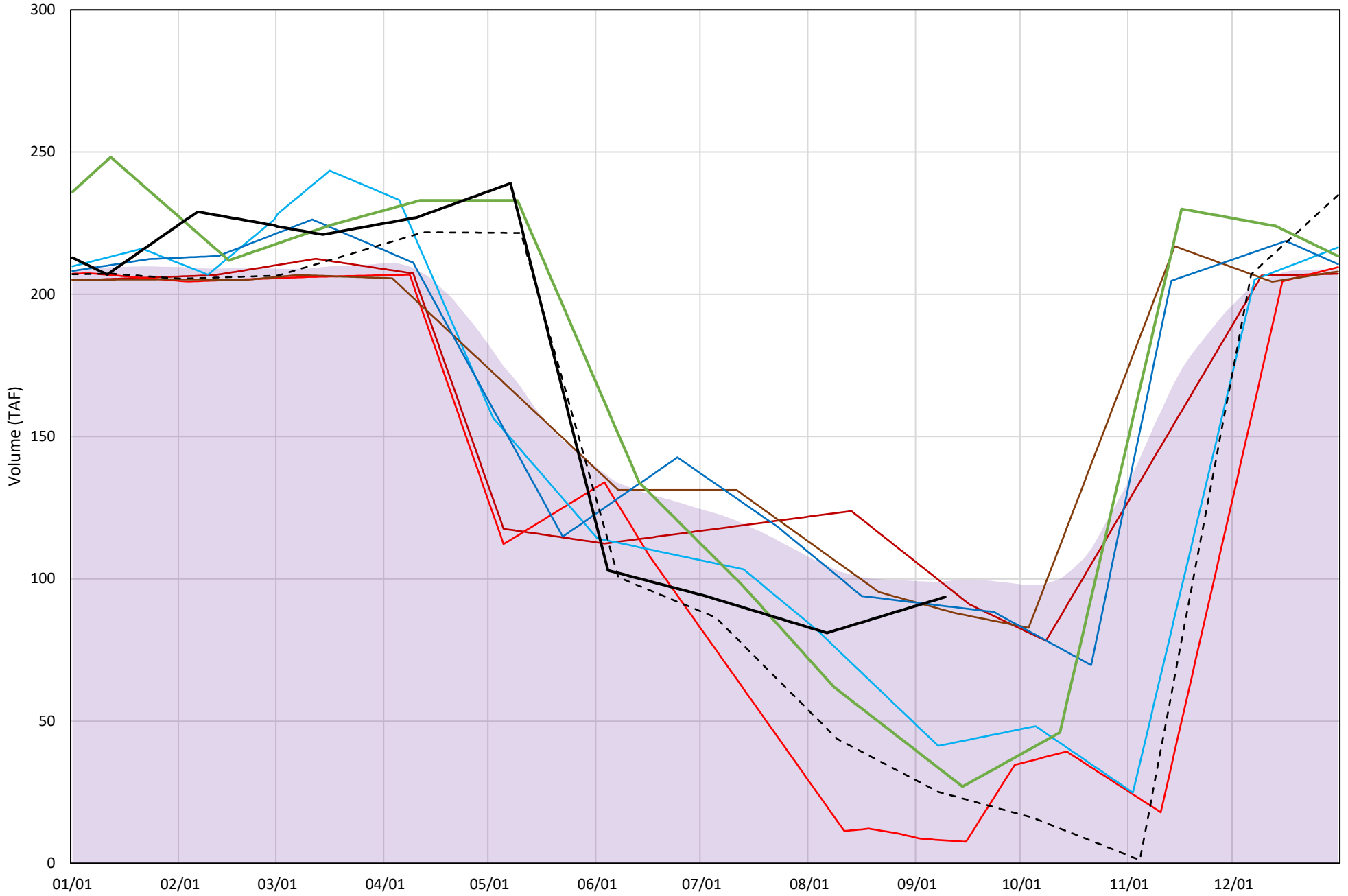


Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$

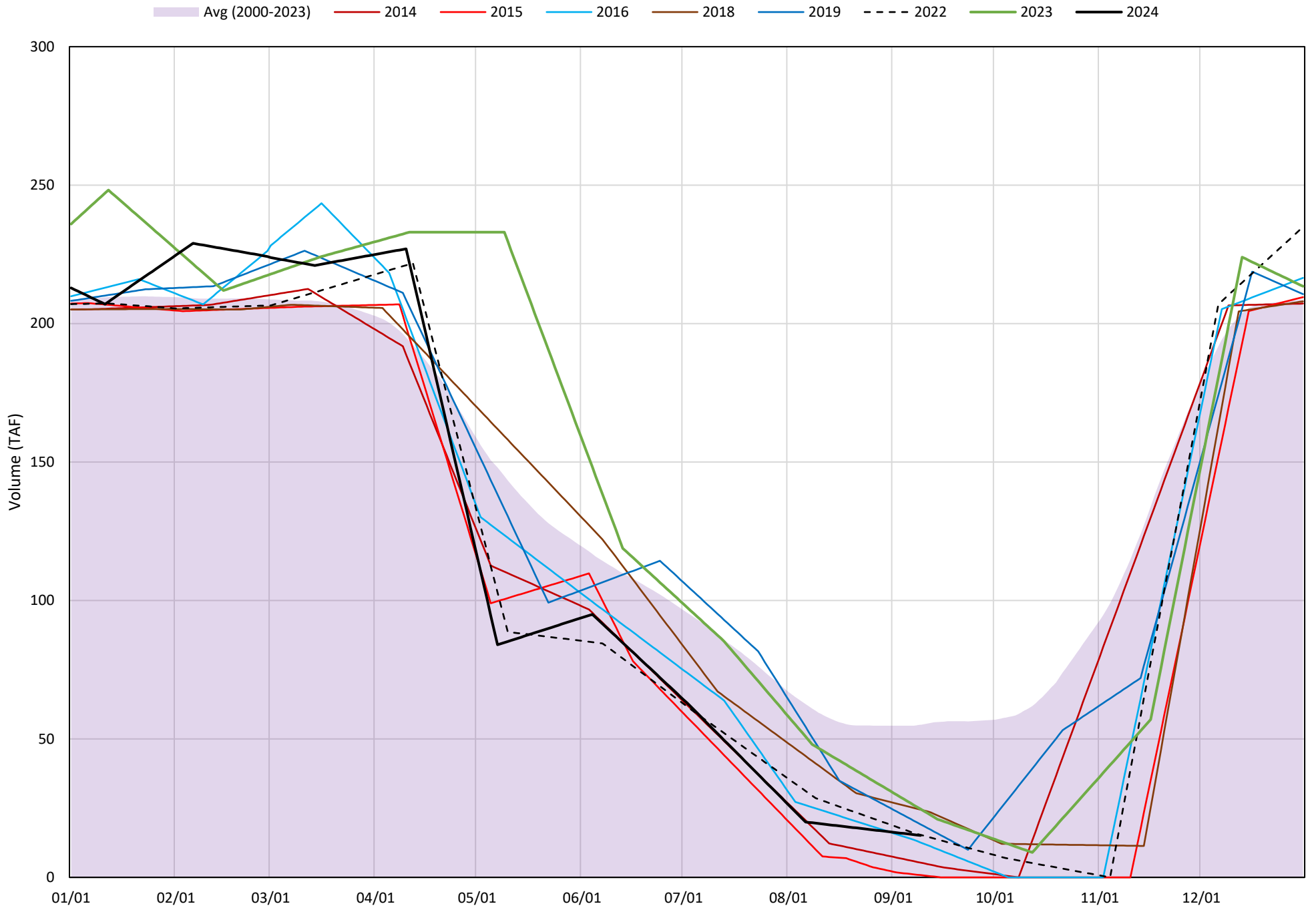


Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

Avg (2000-2023) 2014 2015 2016 2018 2019 2022 2023 2024

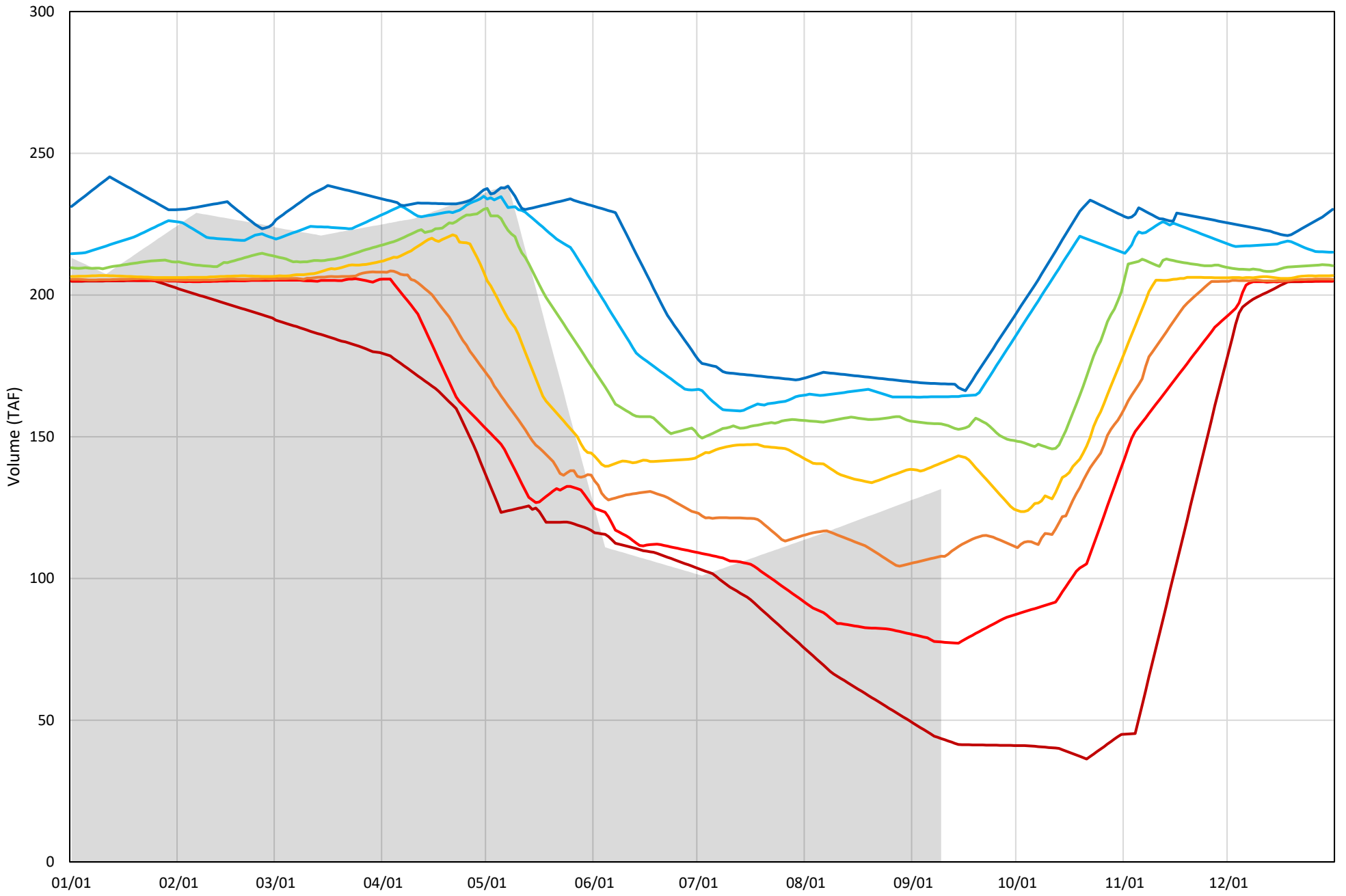


Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$



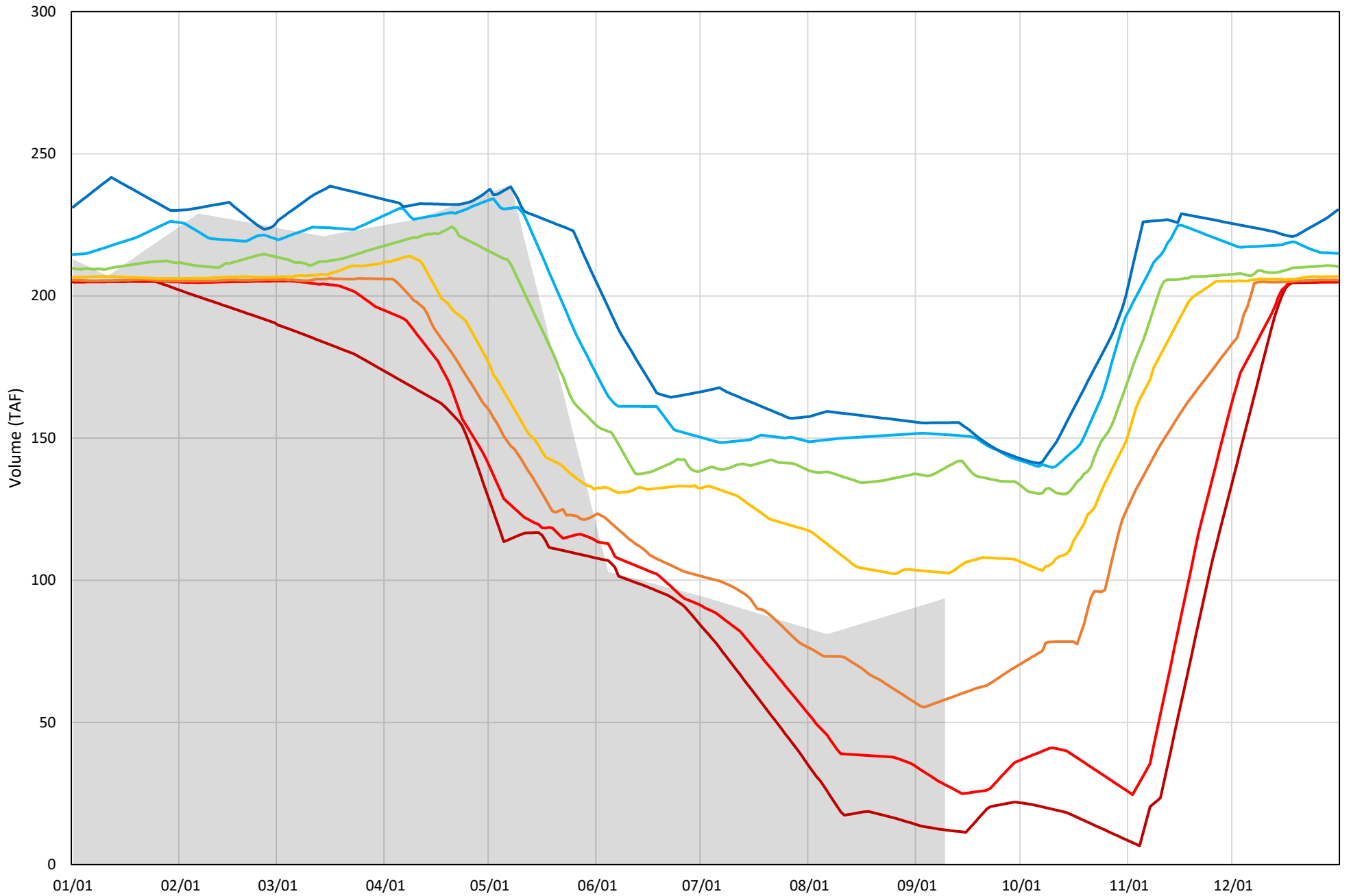
Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



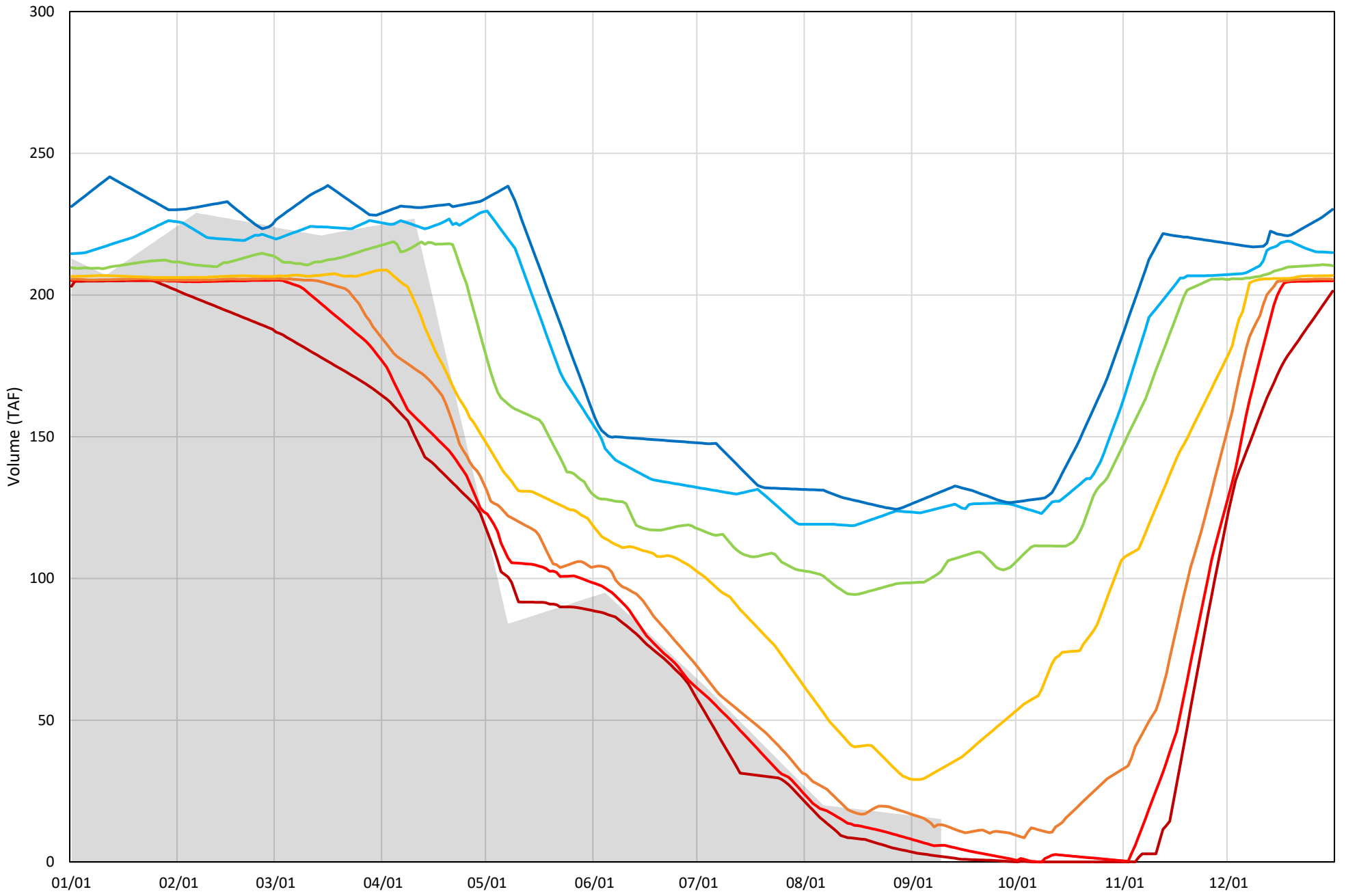
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

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)

Sep-10 2024	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	13.0	46.2	108.0	55.7	9.9	49.3	713.3	257.5
2001	27.4	54.9	111.7	64.7	20.8	58.6	737.9	272.4
2002	26.3	52.4	91.6	56.7	20.0	55.9	604.8	226.9
2003	15.9	44.9	87.5	49.5	12.1	48.0	578.0	212.7
2004	24.5	41.7	57.9	41.4	18.6	44.5	382.4	148.5
2005	-38.1	-52.4	-8.7	33.1	-28.9	-56.0	-57.8	47.6
2006	37.4	62.3	116.7	72.1	28.4	66.5	770.7	288.5
2007	18.6	32.0	64.6	38.4	14.1	34.2	426.9	158.4
2008	16.9	40.4	86.9	48.1	12.9	43.2	573.9	210.0
2009	-7.5	-10.2	-8.2	8.6	-5.7	-10.8	-54.3	23.6
2010	-23.8	-44.1	-7.1	25.0	-18.1	-47.1	-46.8	37.3
2011	-13.7	-8.1	-0.6	7.5	-10.4	-8.7	-4.0	7.7
2012	9.3	13.9	18.9	14.0	7.1	14.8	124.7	48.9
2013	36.5	60.3	103.1	66.6	27.7	64.4	680.7	257.6
2014	-0.9	4.2	-9.8	5.0	-0.7	4.4	-64.8	23.3
2015	-25.8	-85.5	-14.3	41.9	-19.6	-91.4	-94.6	68.5
2016	-39.3	-51.8	-2.5	31.2	-29.8	-55.4	-16.7	34.0
2017	28.7	47.3	74.7	50.2	21.8	50.5	493.5	188.6
2018	-10.4	-4.7	9.3	8.1	-7.9	-5.0	61.3	24.7
2019	-23.3	-3.2	4.0	10.2	-17.7	-3.4	26.4	15.9
2020	9.0	1.5	16.5	9.0	6.8	1.6	109.0	39.2
2021	15.0	22.1	49.1	28.7	11.4	23.6	324.3	119.8
2022	-94.5	-69.1	0.2	54.6	-71.8	-73.8	1.4	49.0
2023	-68.7	-61.9	9.5	46.7	-52.2	-66.1	62.8	60.4
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Historical - Current

(Historical - Current) / Current