

Northern CVP Water Temperature Report

January - 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
Dec	51.7	50.9	49.3	50.8	50.6	50.7	50.5	50.1	50.0	50.8	44.7	44.2	44.8	4596	230	5120	51.5	47.3	49.5
01/01	52.4	51.9	51.1	51.6	51.4	51.6	51.7	51.4	51.7	49.3	45.6	45.7	46.6	4285	625	5034	51.5	46.0	48.0
01/02	52.2	51.6	50.9	51.5	51.1	51.1	50.7	50.2	50.3	48.8	45.6	44.6	45.2	4503	503	5039	45.5	44.5	45.5
01/03	? 51.9	? 51.4	? 51.0	? 51.5	? 51.1	? 51.3	? 49.7	? 49.6	? 49.9	? 49.3	? 45.5	? 44.3	? 45.0	3404	1404	5062	? 46.5	47.2	47.8
01/04	51.8	51.1	50.9	51.3	51.0	51.1	50.0	49.3	49.1	49.0	45.7	44.1	44.7	3191	1527	5098	50.0	44.4	47.4
01/05	51.9	51.1	50.8	51.2	50.9	51.0	50.3	49.6	49.5	49.0	45.9	44.7	45.2	3751	1024	5057	49.5	45.1	48.0
01/06	51.6	50.9	50.6	50.9	50.5	50.5	49.7	48.9	48.8	48.1	45.6	42.9	43.2	3981	1170	5035	43.0	41.5	43.6
01/07	51.6	50.9	50.2	50.7	50.2	50.1	48.6	47.8	47.8	47.1	45.4	41.0	41.0	4270	652	5051	42.0	35.9	40.7
01/08	51.6	50.7	50.0	50.5	50.2	50.2	49.0	47.8	47.4	47.9	45.5	41.9	41.5	4366	602	5046	43.5	40.5	43.1
01/09	51.3	50.6	49.9	50.6	50.2	50.2	49.6	49.0	48.4	48.2	45.4	43.5	43.4	4409	610	5055	45.5	43.3	43.5
01/10	51.0	50.5	46.6	50.7	50.2	50.1	49.5	48.7	48.5	47.6	45.3	42.8	42.8	5039	35	5065	43.5	44.5	45.0
01/11	51.1	50.5	45.3	50.3	49.9	49.8	48.5	47.7	47.9	46.6	44.9	41.2	41.8	4842	27	5061	42.5	40.0	41.4
01/12	51.1	50.6	47.4	50.0	49.6	49.5	48.5	47.4	47.2	46.9	44.9	41.6	41.9	4988	44	5060	41.0	40.0	40.0
01/13	51.1	? 50.3	49.0	50.0	48.7	49.0	47.2	47.4	47.4	46.1	44.2	40.4	42.1	5006	348	5055	43.0	41.8	43.8
01/14	50.9	50.4	48.9	50.1	49.4	49.7	46.7	45.6	45.7	47.8	44.3	41.7	43.1	4690	473	5060	48.0	46.2	47.5
01/15	50.9	50.4	48.9	50.0	49.7	49.9	48.5	47.6	47.3	47.3	44.2	43.3	45.0	4301	654	5061	49.5	43.8	46.6
01/16	50.7	50.3	48.5	50.0	49.5	49.5	48.4	47.8	47.8	46.7	44.0	42.5	43.9	4644	262	5059	41.0	40.9	42.8
01/17	50.6	50.1	48.6	50.0	49.7	49.9	48.4	47.9	47.8	47.8	43.9	43.1	44.3	4679	448	5063	50.5	49.0	50.4
01/18	50.6	50.0	48.5	50.0	49.8	50.0	49.6	49.0	48.9	47.8	43.7	43.6	45.0	4679	448	5063	51.5	46.7	48.7
01/19	50.5	49.9	48.5	49.8	49.6	49.9	49.8	49.3	49.3	48.0	43.7	43.7	45.2	3648	1266	5060	51.5	48.3	50.2
01/20	49.3	49.6	48.4	49.6	49.6	49.9	50.3	50.3	50.5	49.3	43.9	44.7	45.8	2861	1839	5043	54.5	54.0	53.9
01/21	49.6	49.7	48.4	49.8	49.9	50.1	50.7	50.6	50.8	50.2	44.0	45.0	46.0	2057	1857	5054	↑ 54.5	53.7	53.1
01/22	49.6	49.6	48.5	50.2	50.8	50.8	51.2	51.1	51.3	51.2	44.2	45.7	46.8	1545	1854	5102	55.5	53.7	53.8
01/23	50.1	49.7	48.5	50.2	50.5	50.7	51.7	51.7	51.8	50.2	44.3	45.9	47.1	2351	1768	5106	56.5	52.5	54.0
01/24	49.9	49.6	48.6	50.3	50.6	50.6	51.5	51.5	51.8	50.5	44.4	45.9	47.1	2304	1733	5111	↑ 54.0	52.0	53.0
01/25	49.9	49.6	48.7	50.2	50.4	50.7	51.5	51.5	51.8	49.5	44.4	45.3	46.5	2877	1733	5112	54.0	50.9	52.8
01/26	49.8	49.4	48.6	50.0	50.1	50.2	50.9	50.9	51.2	49.7	44.4	45.3	46.4	2559	1731	5111	53.5	49.7	51.2
01/27	50.1	? 49.7	48.8	49.6	49.9	50.2	51.1	51.0	51.2	50.2	44.6	45.9	46.0	2991	1724	5092	57.5	53.2	54.5
01/28	49.9	49.4	49.0	49.7	50.0	50.5	51.9	52.1	52.3	50.6	44.9	46.6	46.5	3016	1691	5005	65.5	58.6	60.5
01/29	49.8	? 49.6	49.0	49.8	50.0	50.5	51.9	52.5	53.0	50.2	45.3	47.1	47.8	3285	1720	5010	60.5	55.4	57.5
01/30	49.9	? 49.5	? 48.8	? 50.0	? 50.4	? 50.9	? 52.1	? 52.6	? 53.2	? 50.7	? 45.6	? 47.7	? 48.6	5932	1733	6989	60.0	57.0	58.6
01/31	49.8	49.2	48.8	49.5	49.6	49.7	50.6	51.4	52.1	49.8	45.6	47.1	47.8	13672	1731	14039	57.0	55.0	55.5
Jan	50.8	50.3	49.0	50.3	50.2	50.3	50.0	49.6	49.7	48.7	44.8	44.1	44.9	3815	1050	5127	50.2	47.3	48.9
				Total CFS			128126	33236		167858									
				Total AF			254133	65922		332939									

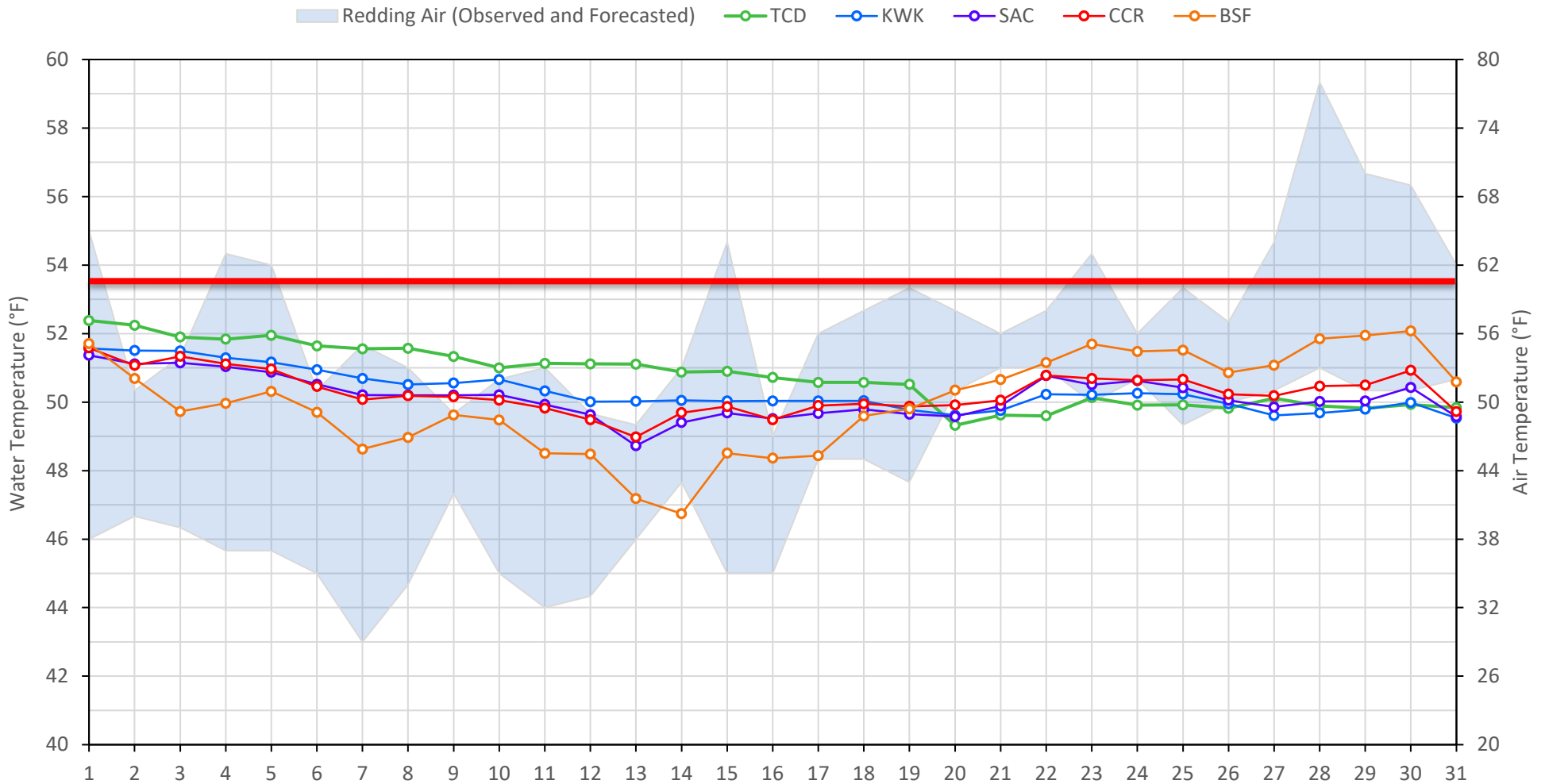
Legend

- ? = 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



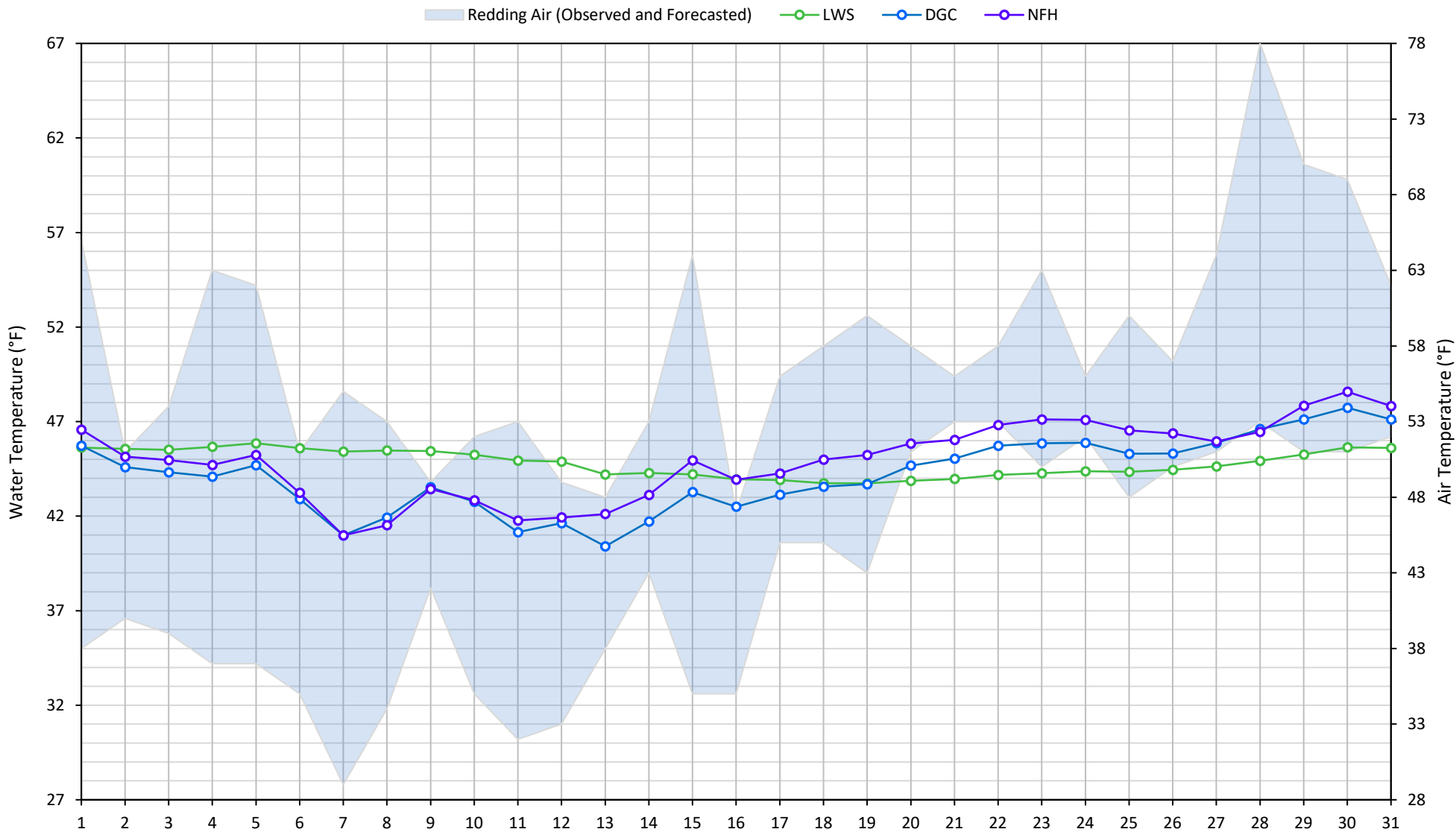
Station Details			
Code	Body of Water	Location ¹	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	Click Here
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	Click Here
SAC	Sacramento River	4.8 miles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



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

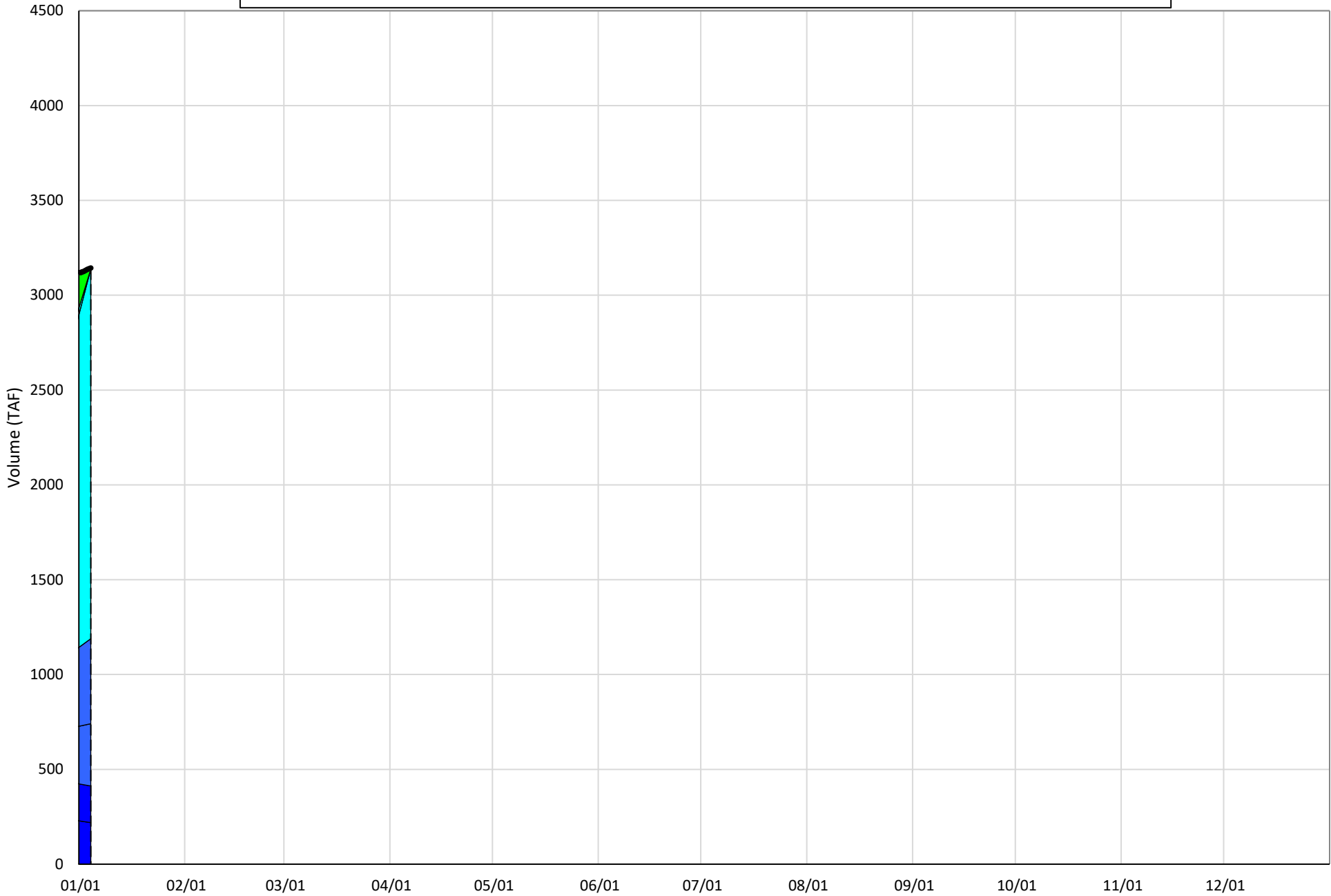
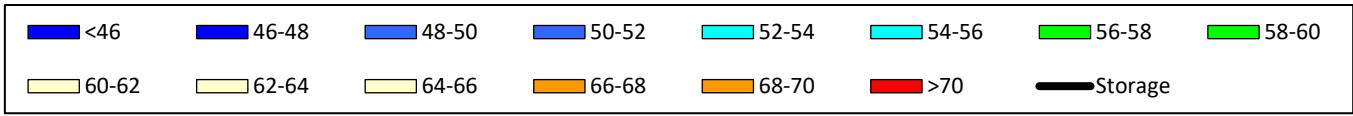
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

2024

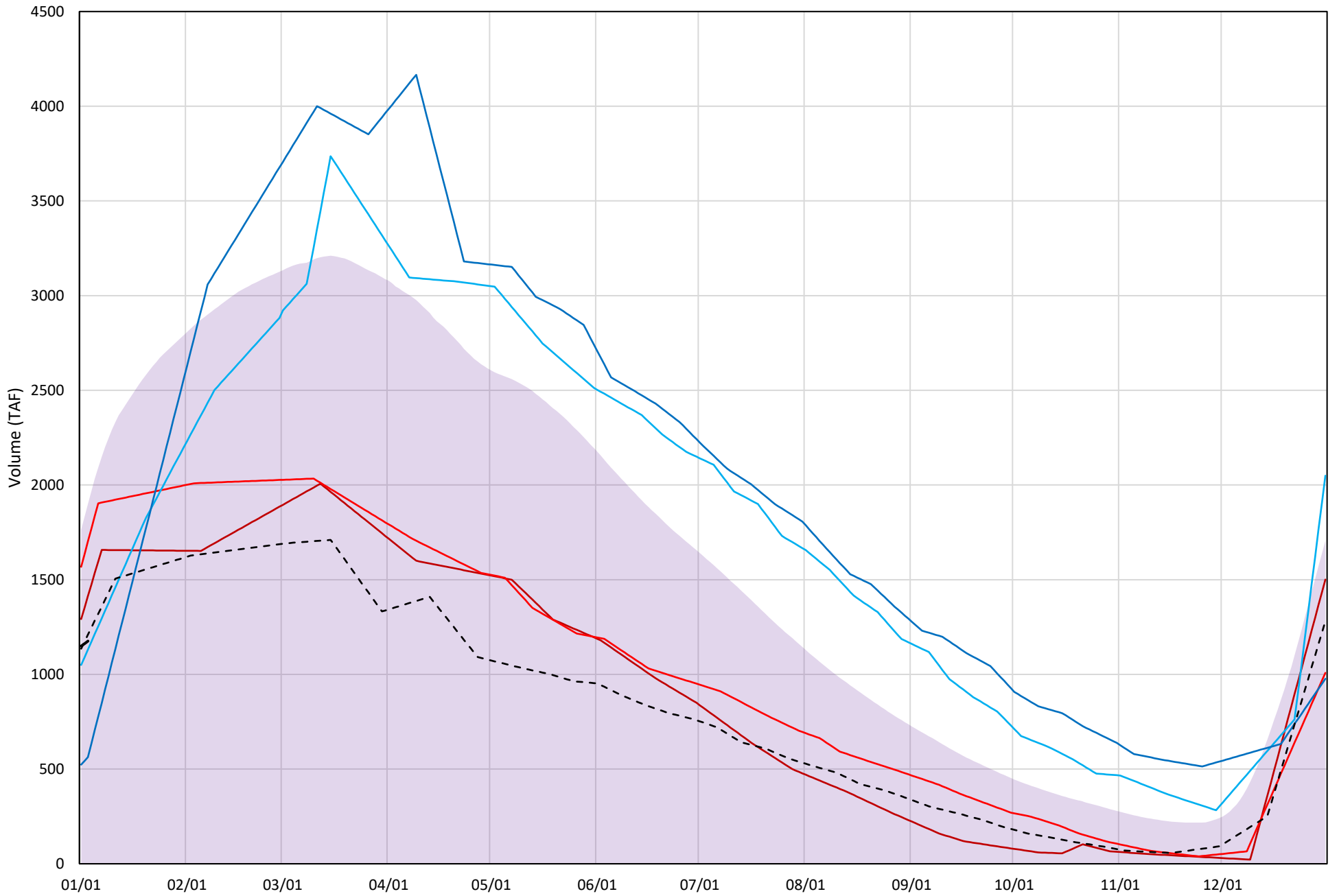
Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
8	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
9	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
10	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$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



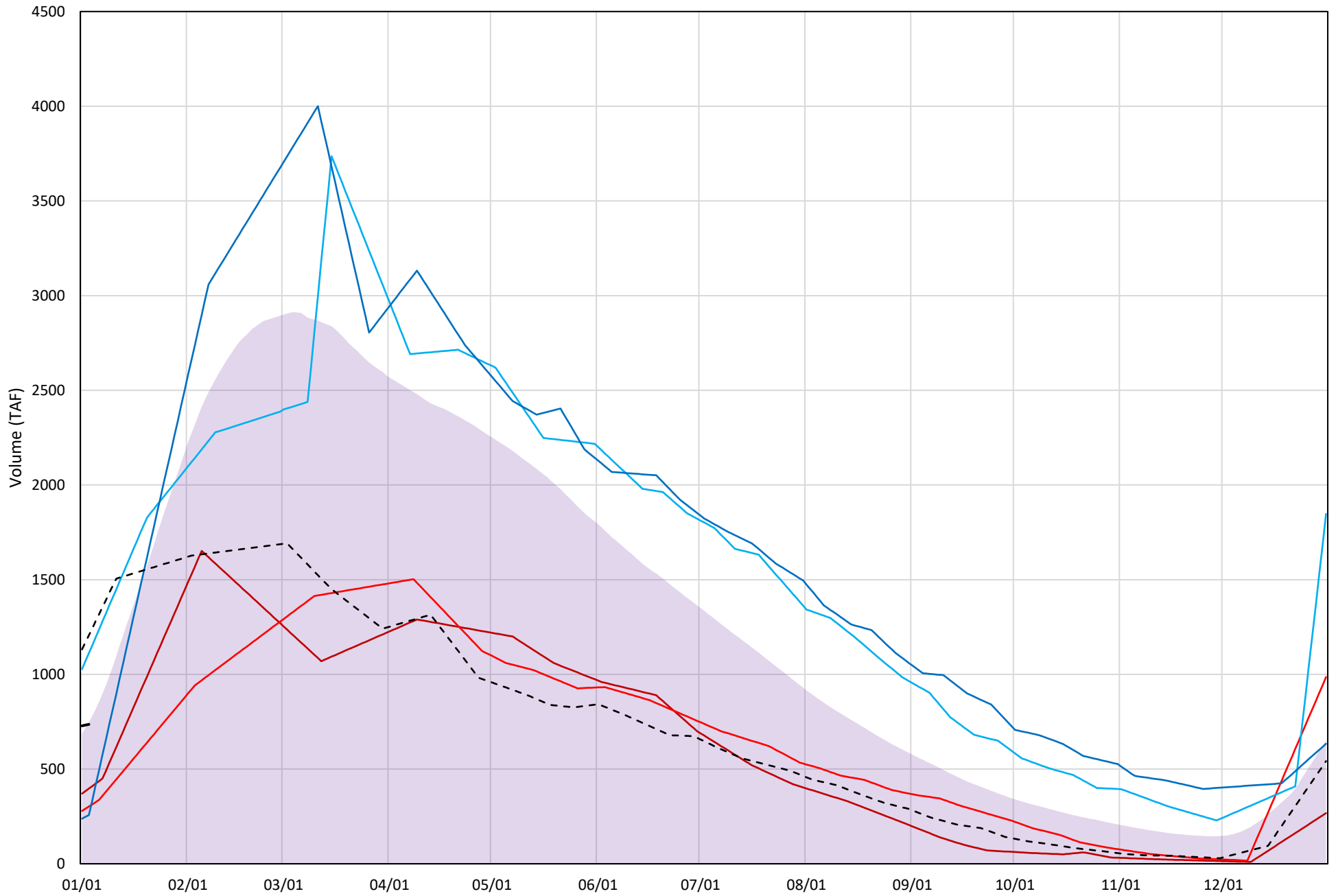
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$

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



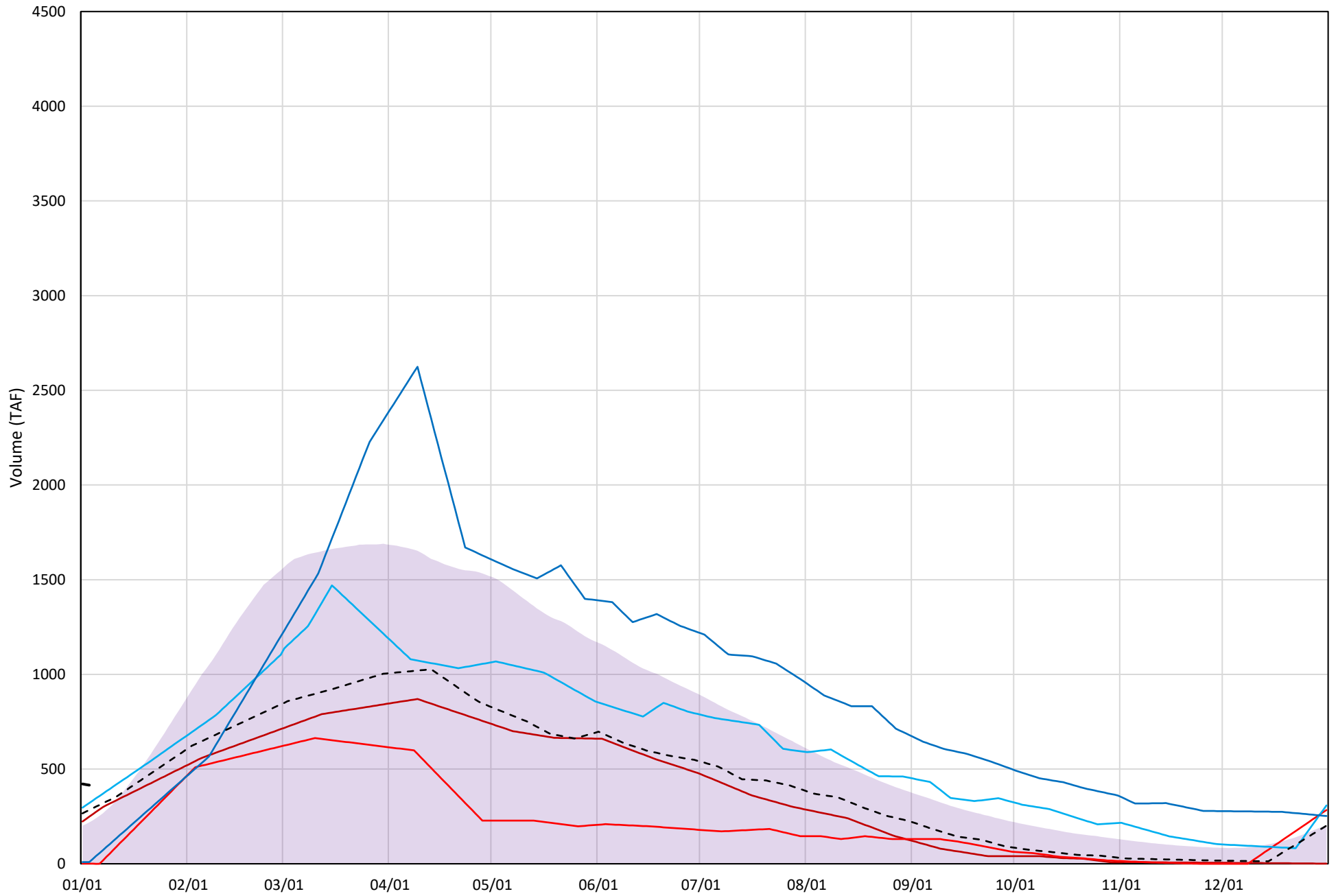
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$

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



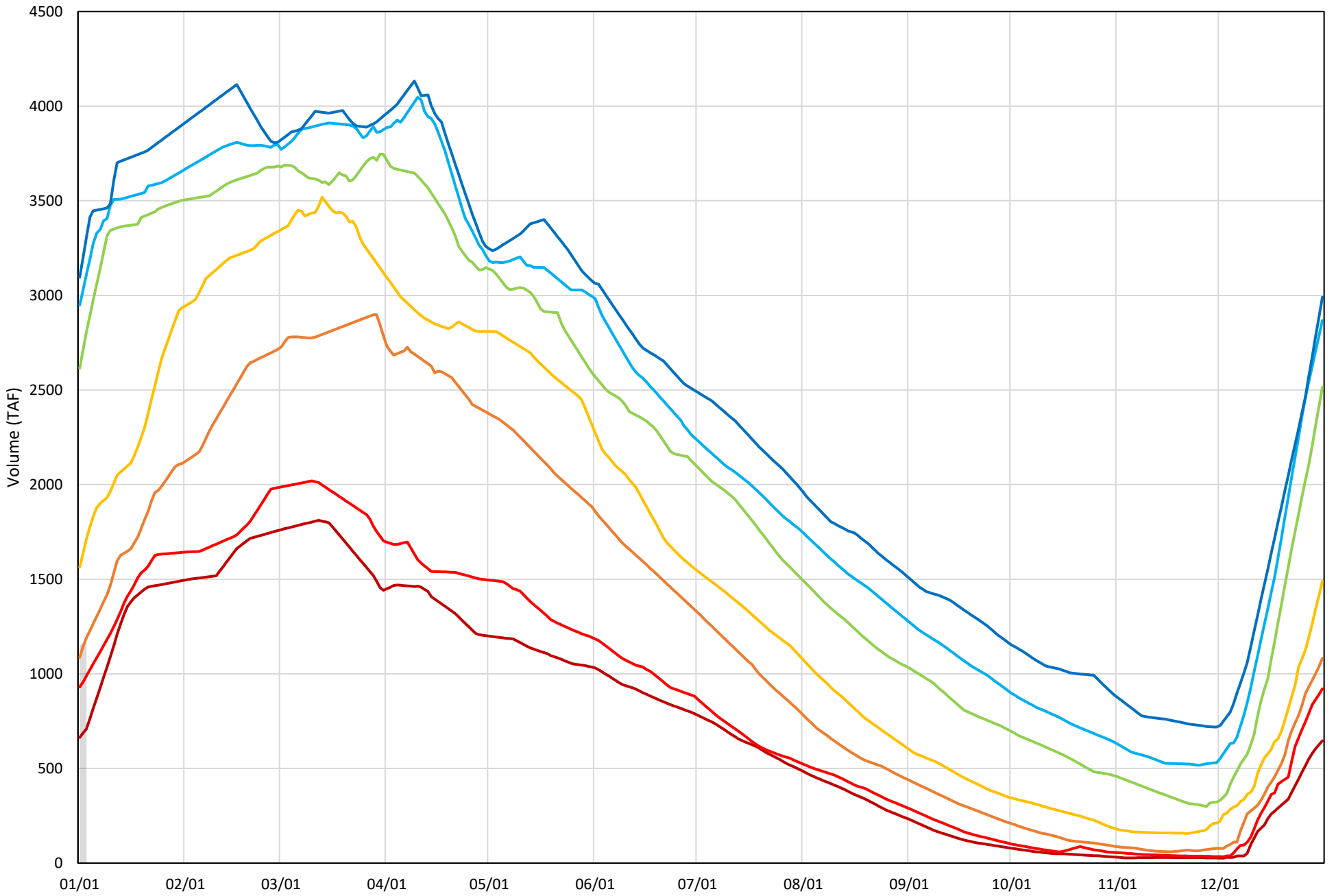
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

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



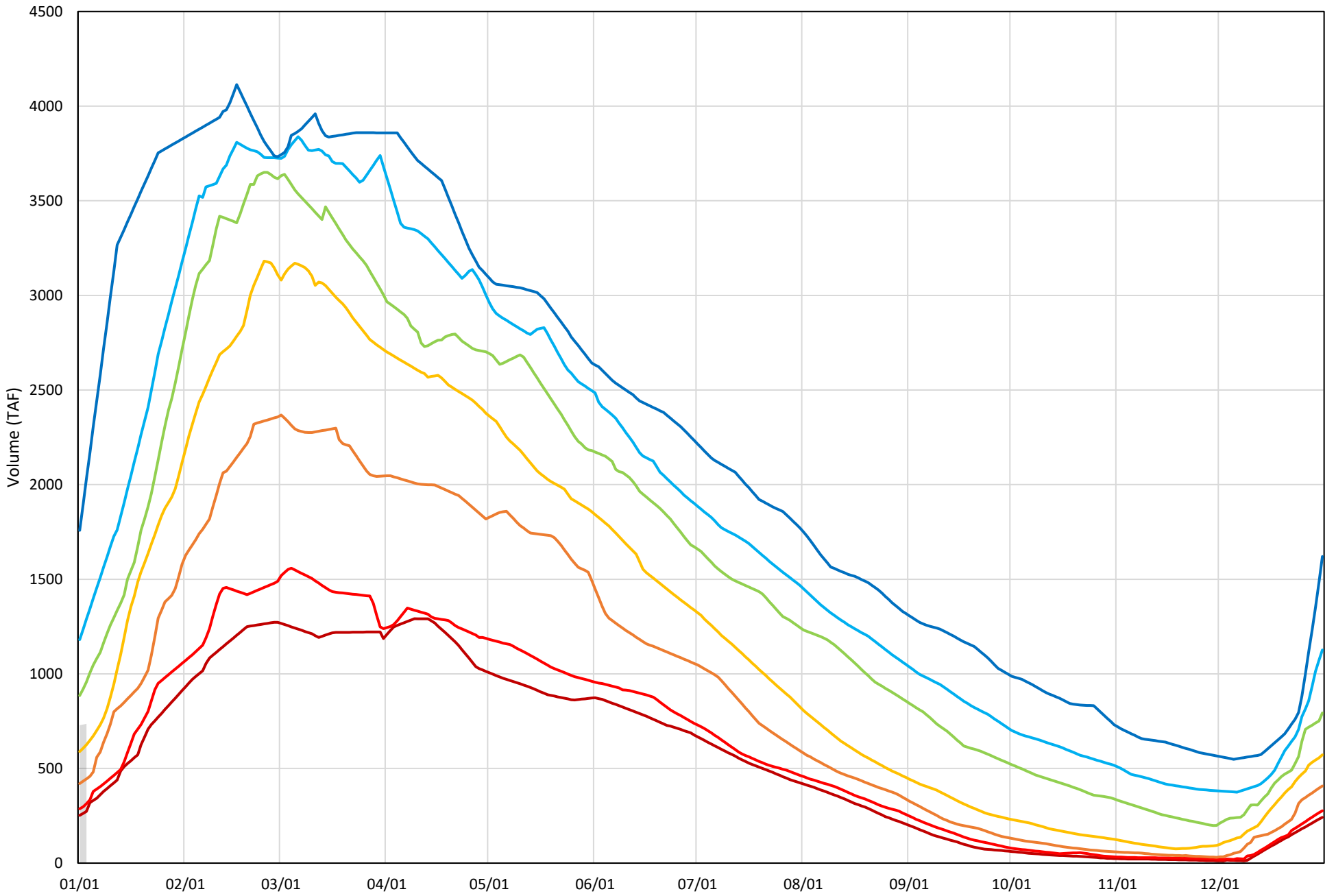
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



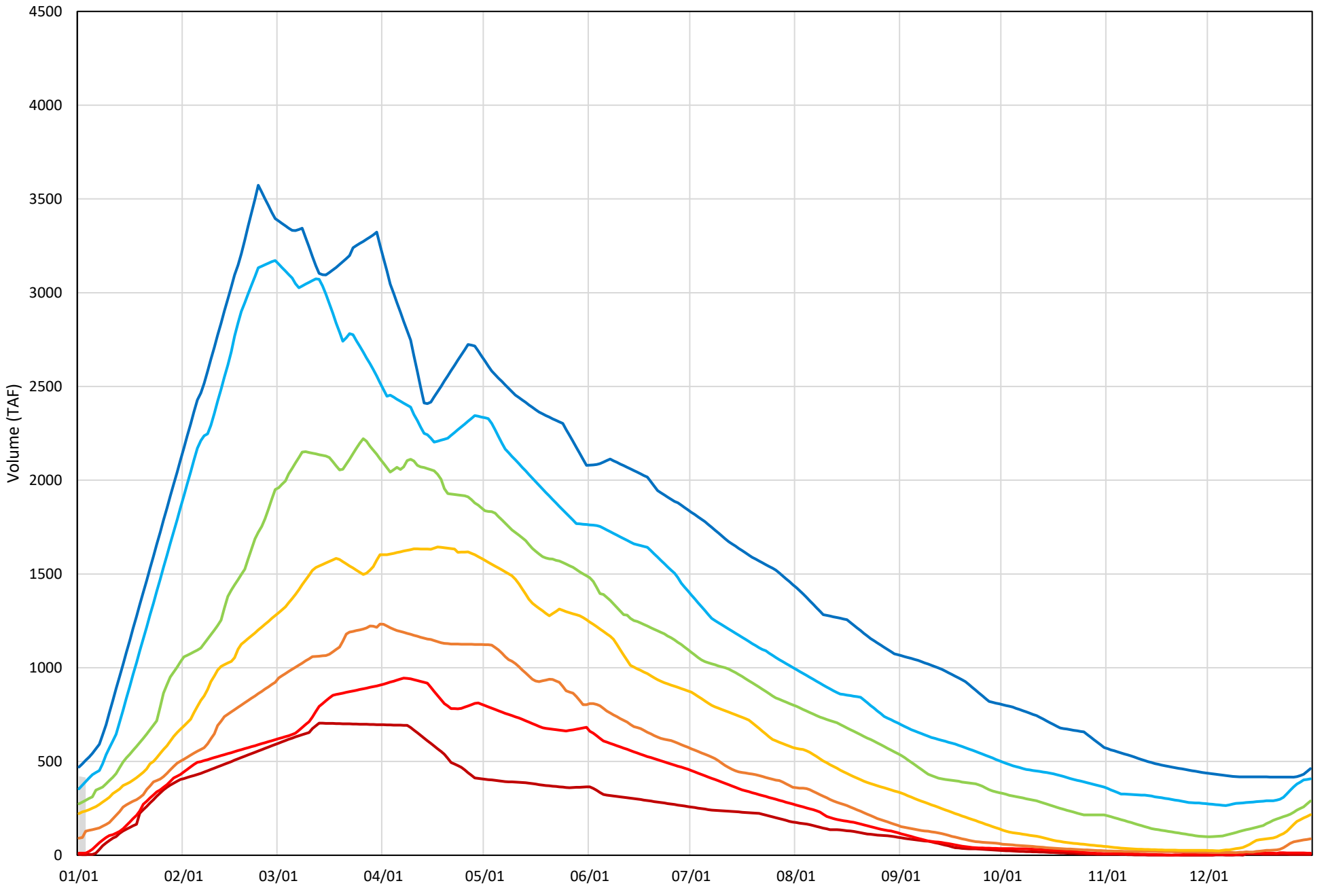
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

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)

Jan-04 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	-182	214	-215	204	-15	29	-52	32
1999	1742	235	139	705	148	32	33	71
2000	906	-106	-179	397	77	-14	-43	45
2001	549	-366	-332	416	47	-50	-80	59
2002	452	748	-155	452	38	102	-37	59
2003	1887	-69	-160	705	161	-9	-38	69
2004	2047	-275	-404	909	174	-37	-97	103
2005	53	217	-212	161	5	29	-51	28
2006	1630	48	-233	637	139	7	-56	67
2007	1635	-118	-178	644	139	-16	-43	66
2008	622	-379	-252	418	53	-51	-61	55
2009	-151	286	-272	236	-13	39	-66	39
2010	557	-216	-159	311	47	-29	-38	38
2011	2177	-124	-389	897	185	-17	-94	99
2012	1442	-154	1	532	123	-21	0	48
2013	1664	-32	-79	592	142	-4	-19	55
2014	238	-339	-167	248	20	-46	-40	35
2015	526	-434	-415	458	45	-59	-100	68
2016	-45	376	-94	172	-4	51	-23	26
2017	1302	1590	-32	975	111	216	-8	112
2018	-196	-194	-83	158	-17	-26	-20	21
2019	-613	-479	-406	499	-52	-65	-98	72
2020	-120	-54	-168	114	-10	-7	-41	19
2021	373	-418	-345	379	32	-57	-83	57
2022	34	471	-131	212	3	64	-32	33
2023	287	-115	-181	194	24	-16	-43	28
2024	0	0	0	0	0	0	0	0

Historical - Current

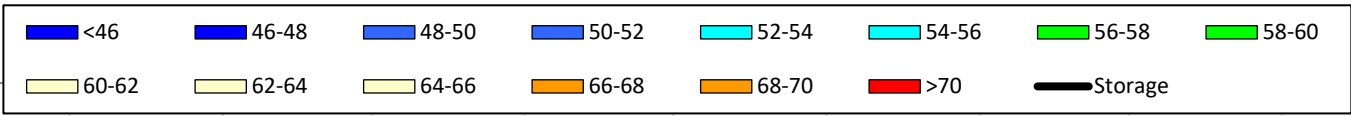
(Historical - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2024

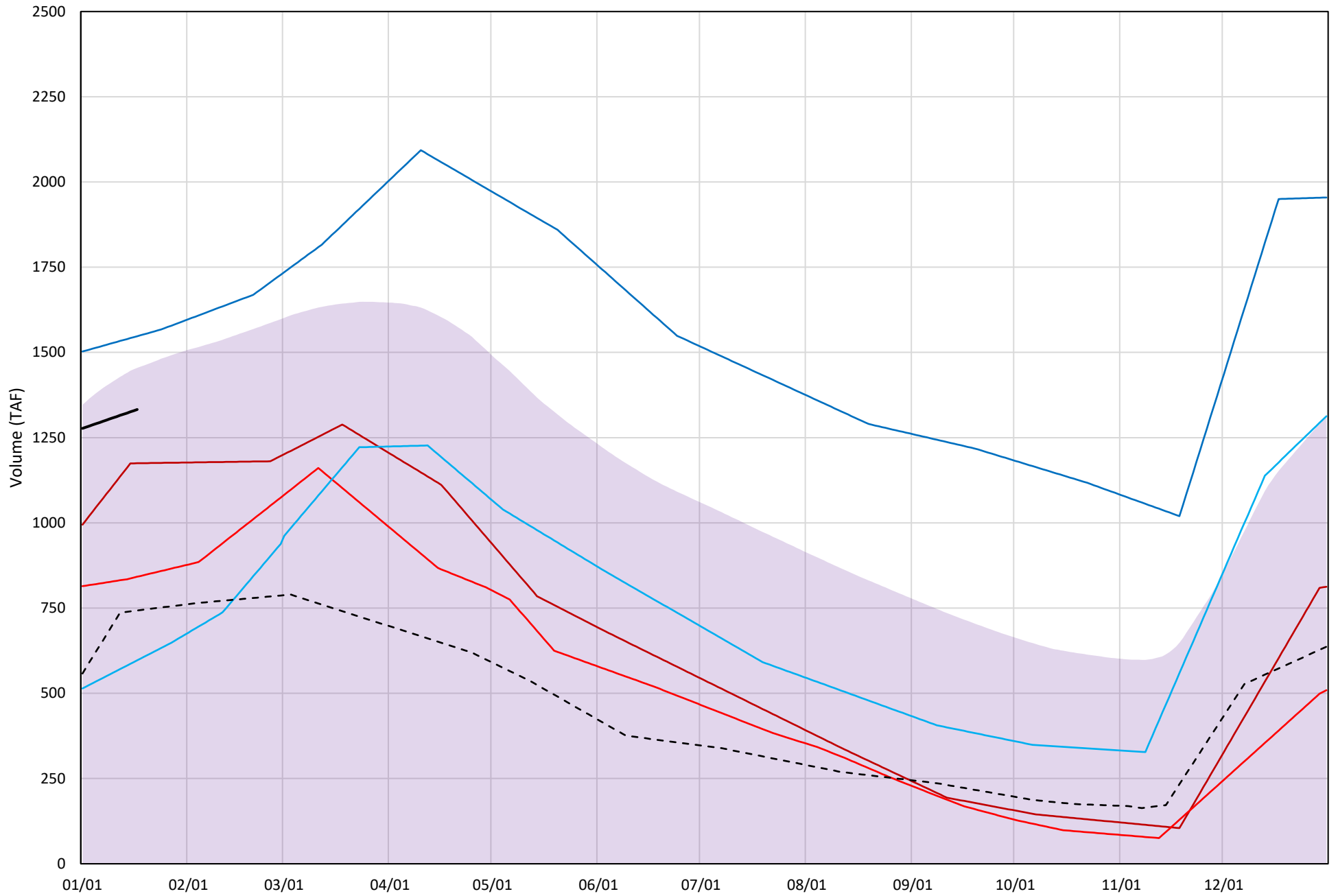
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq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



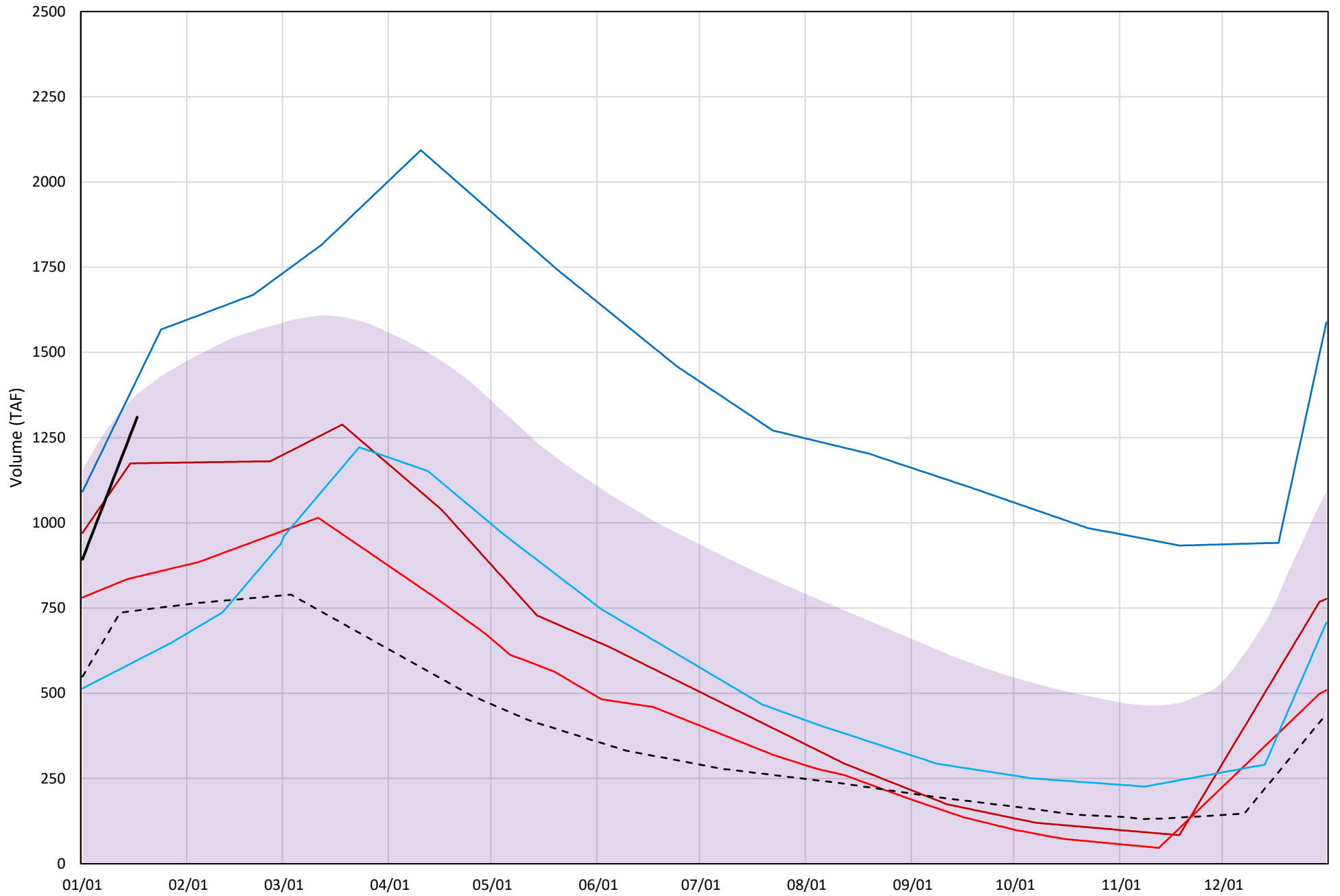
Trinity Lake Cold Water Pool Volume ≤52°F

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



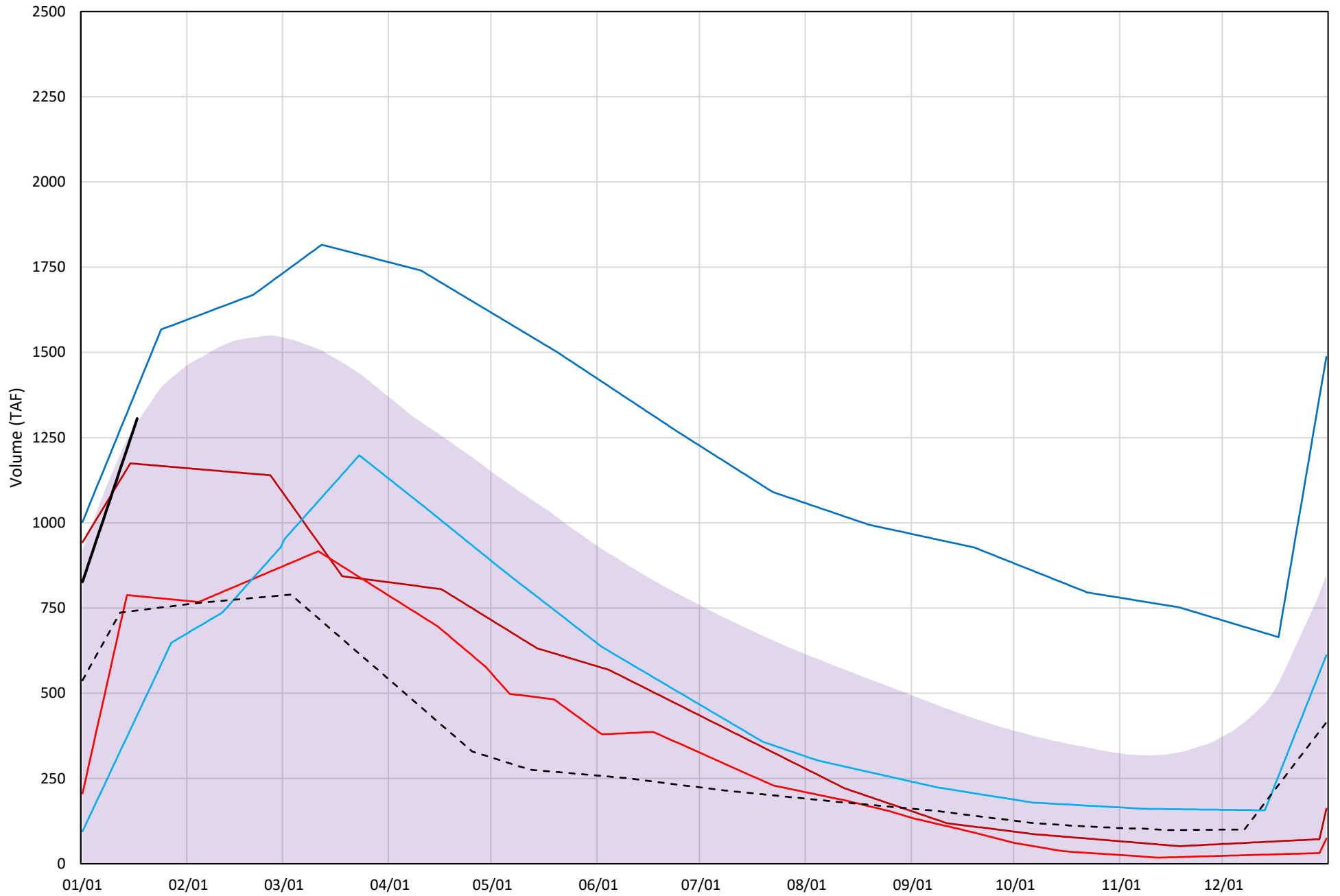
Trinity Lake Cold Water Pool Volume ≤50°F

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

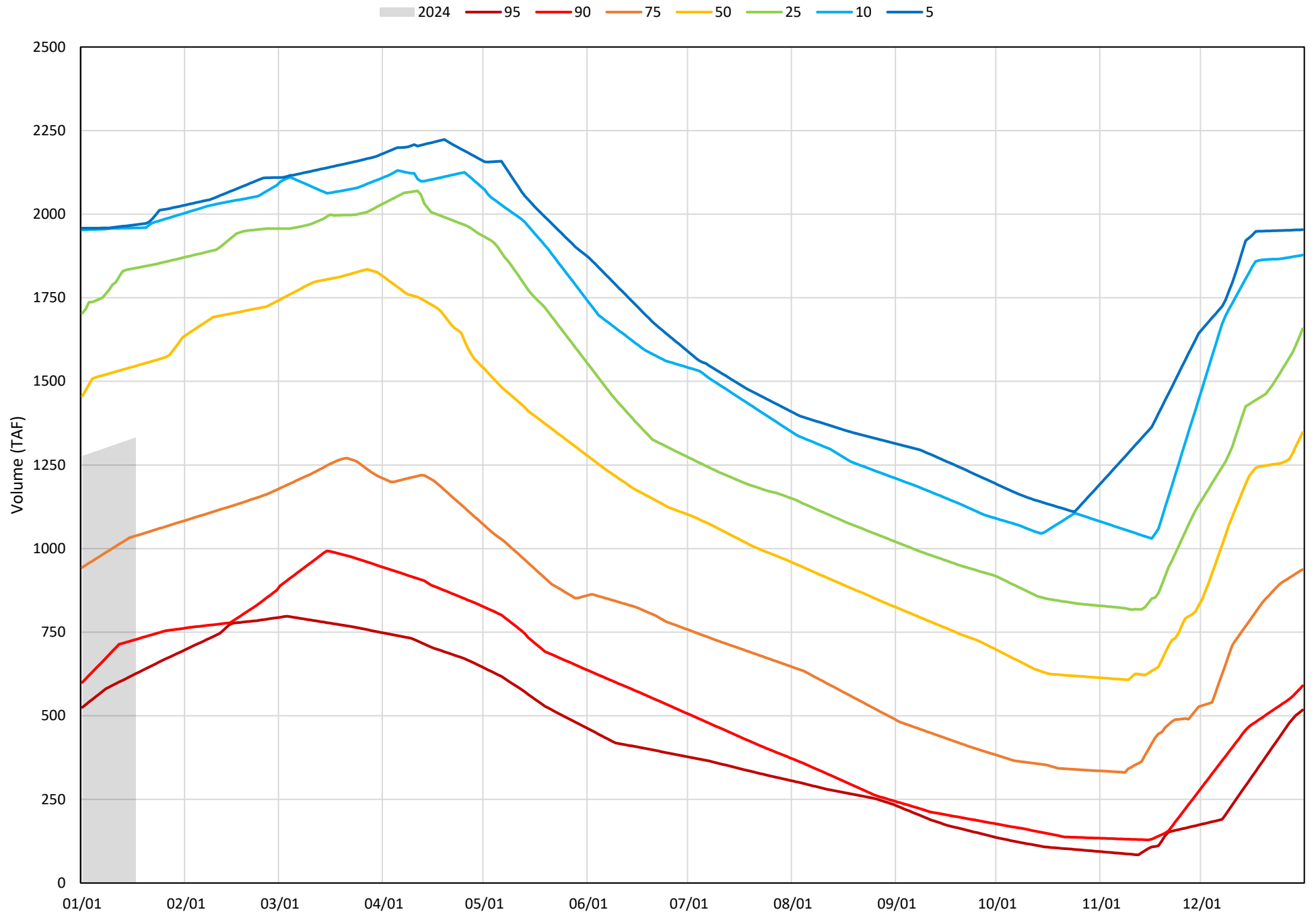


Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

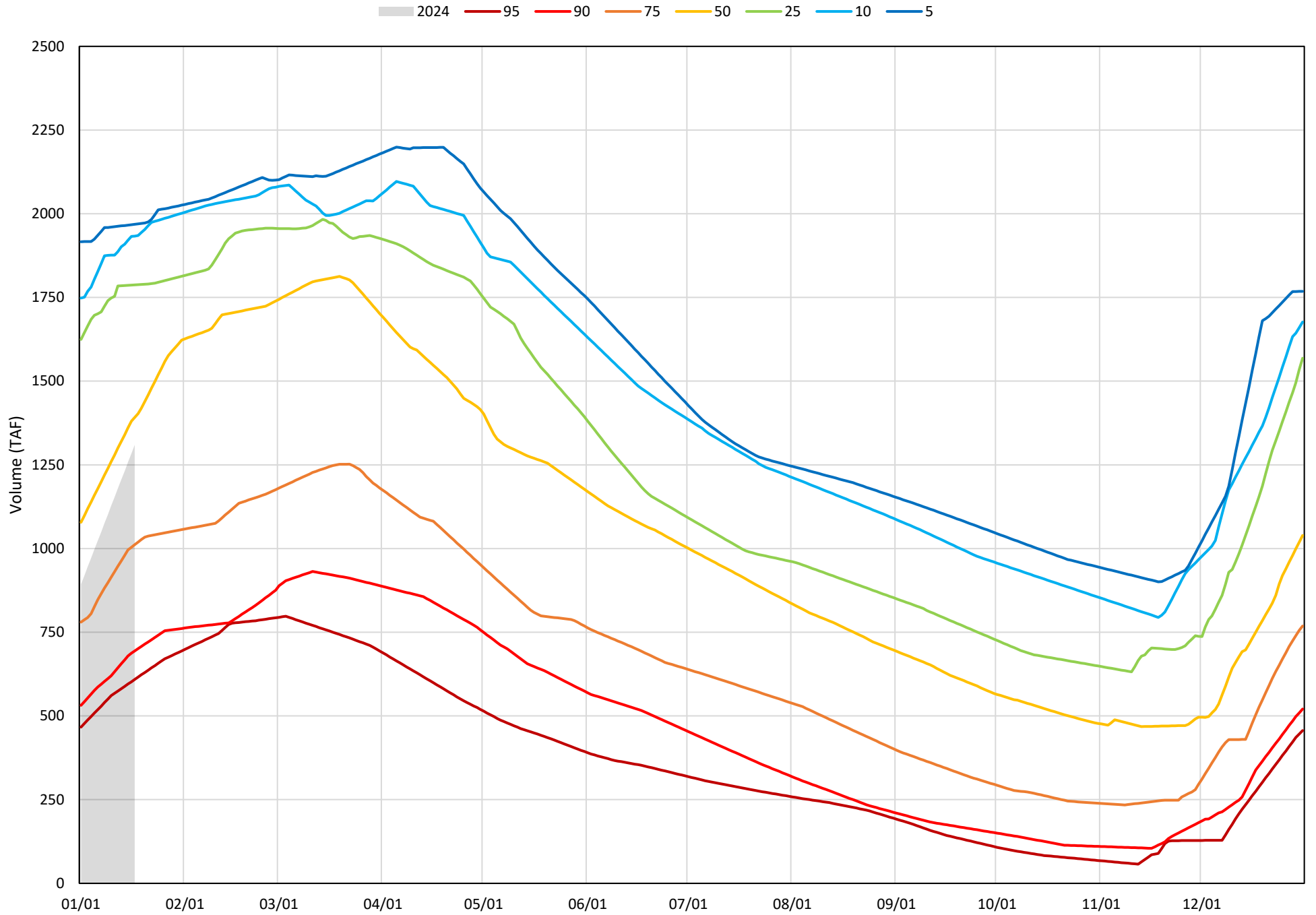
Avg (2000-2023) 2014 2015 2016 2019 2022 2024



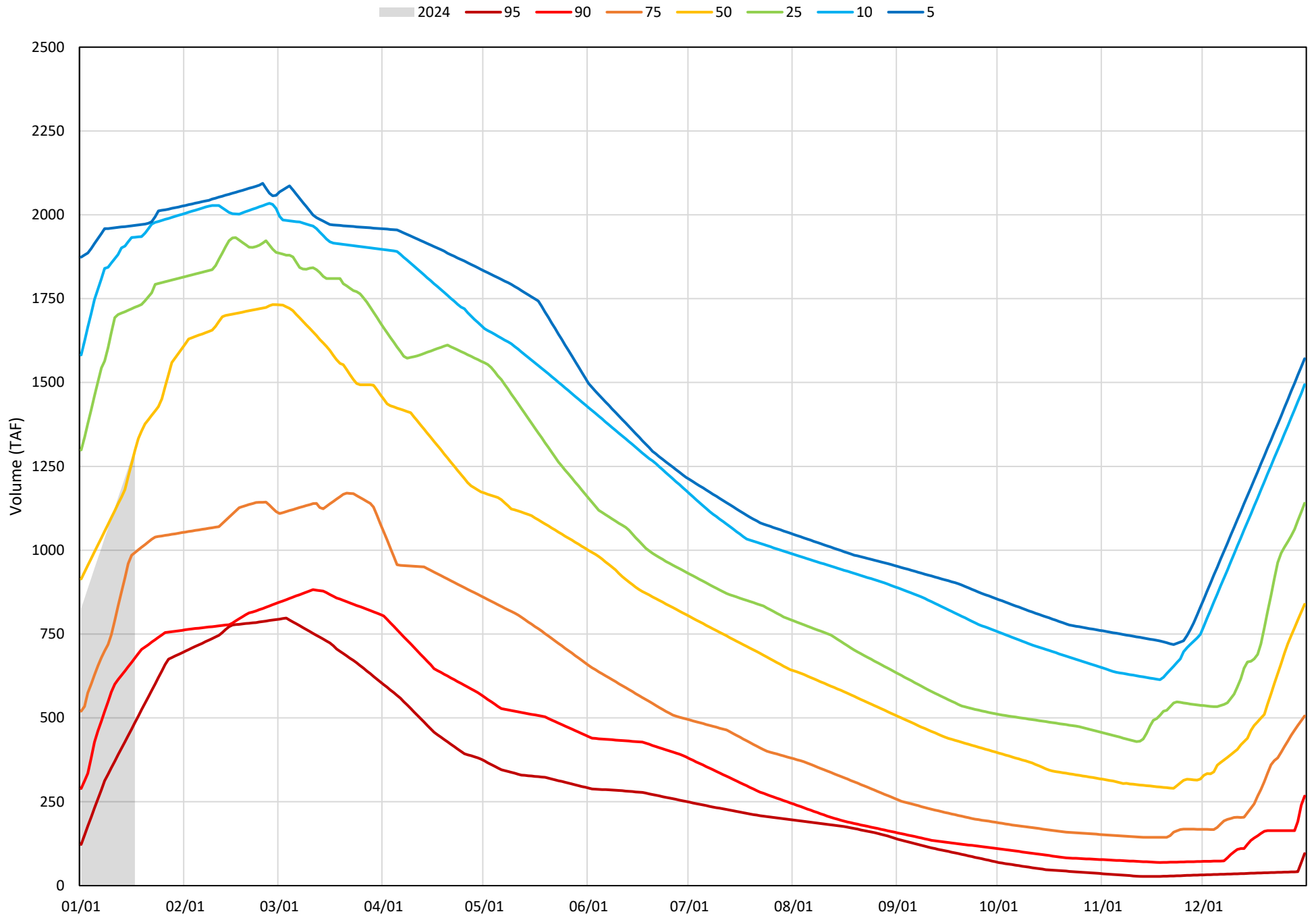
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2023)



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



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



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

Jan-18 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	627	649	653	643	47	50	50	49
2001	366	389	16	257	27	30	1	19
2002	66	68	41	59	5	5	3	4
2003	340	363	330	344	26	28	25	26
2004	521	544	547	537	39	41	42	41
2005	213	-179	-279	224	16	-14	-21	17
2006	577	582	557	572	43	44	43	43
2007	464	486	267	406	35	37	20	31
2008	71	93	97	87	5	7	7	7
2009	-351	-328	-324	334	-26	-25	-25	25
2010	-340	-549	-586	491	-25	-42	-45	37
2011	421	444	447	437	32	34	34	33
2012	626	70	-34	243	47	5	-3	18
2013	575	597	601	591	43	46	46	45
2014	-158	-135	-133	142	-12	-10	-10	11
2015	-491	-468	-521	493	-37	-36	-40	37
2016	-736	-713	-870	773	-55	-54	-67	59
2017	145	-209	-265	206	11	-16	-20	16
2018	428	451	-255	378	32	34	-20	29
2019	215	113	89	139	16	9	7	11
2020	639	662	666	656	48	51	51	50
2021	-80	-97	-100	93	-6	-7	-8	7
2022	-590	-567	-563	573	-44	-43	-43	44
2023	-618	-664	-669	651	-46	-51	-51	49
2024	0	0	0	0	0	0	0	0

Historical - Current

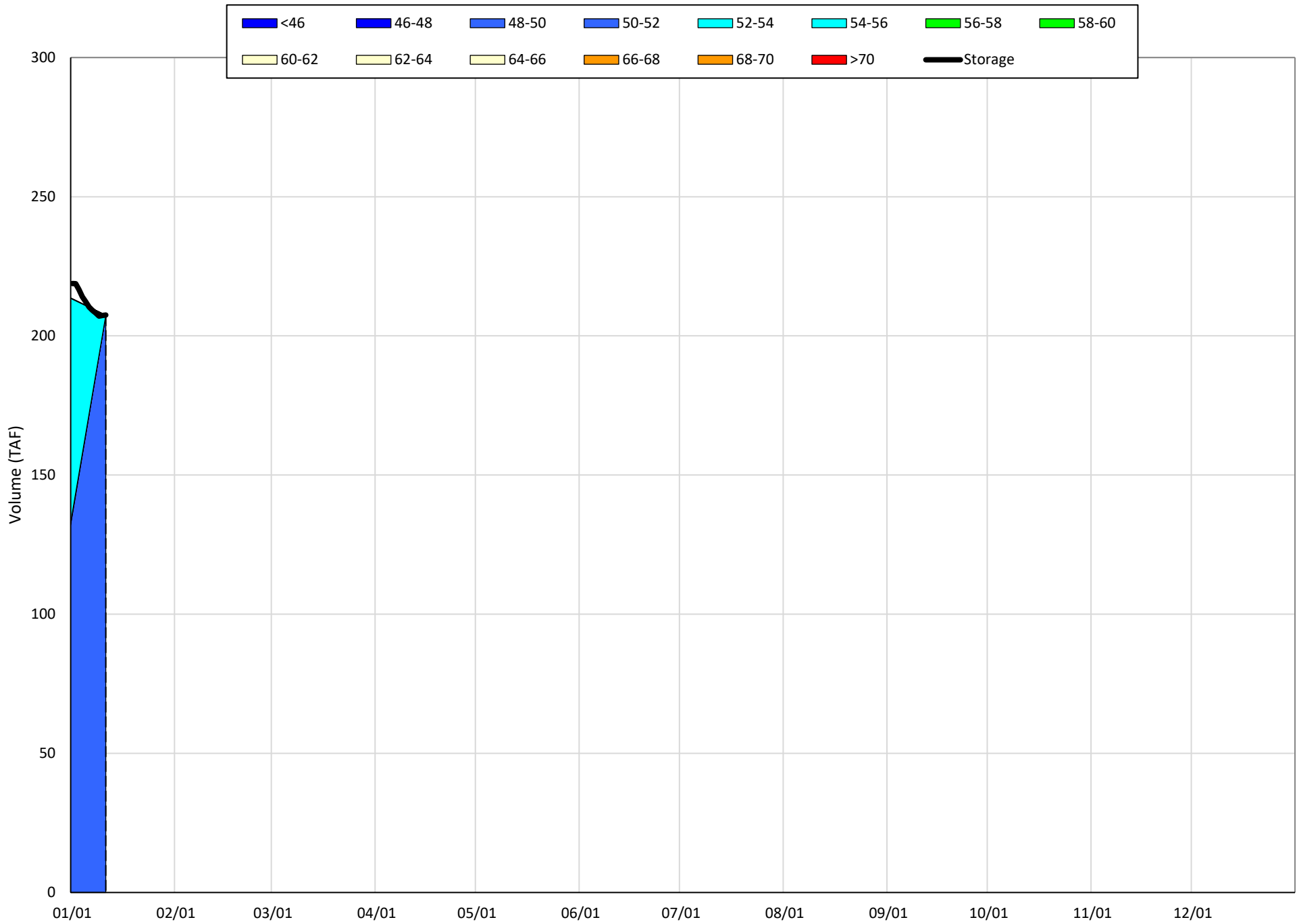
(Historical - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

2024

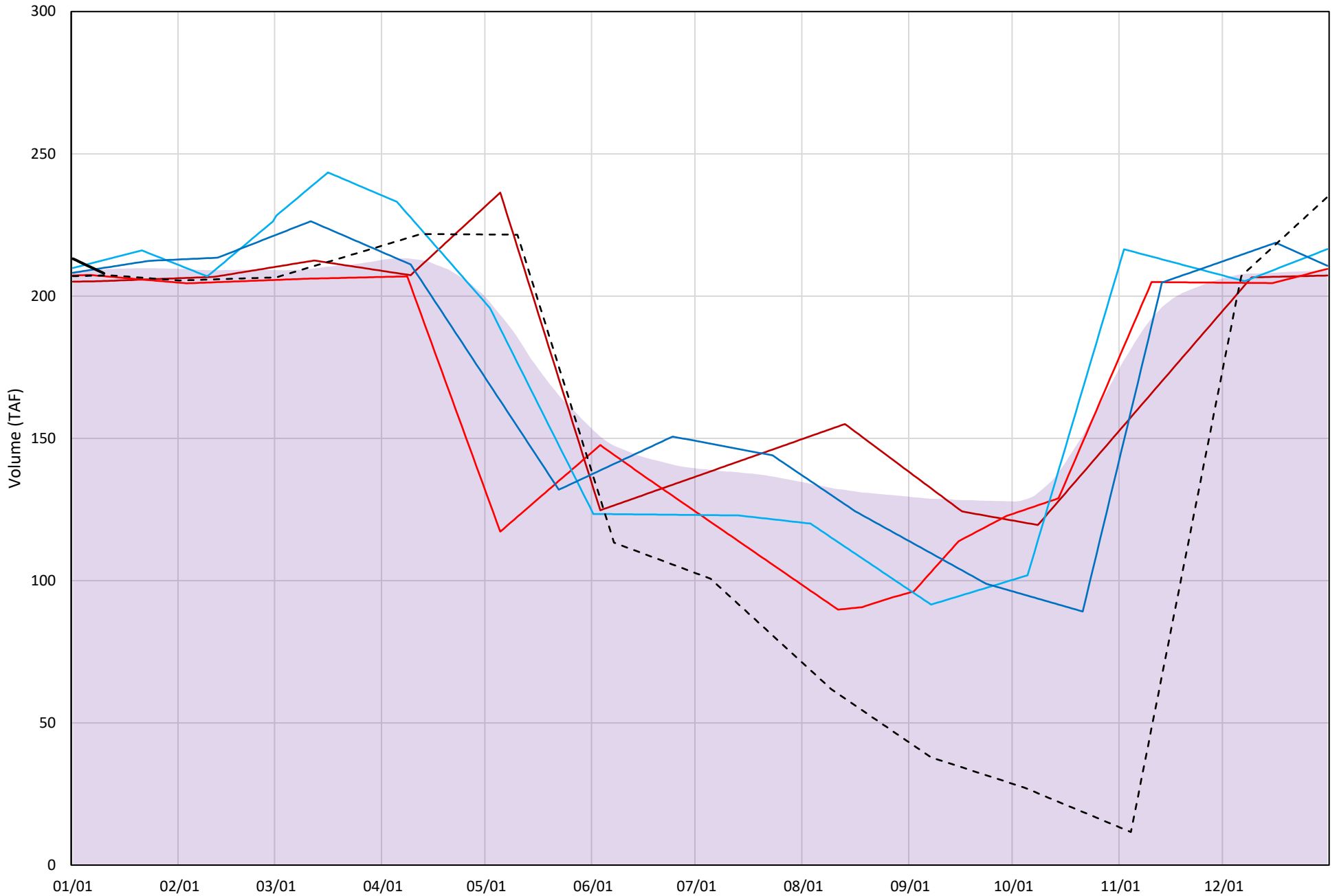
Page	Description
24	- Whiskeytown Lake Isothermobaths Plot
25	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$
26	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$
27	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$
28	- Whiskeytown Lake Cold Water 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



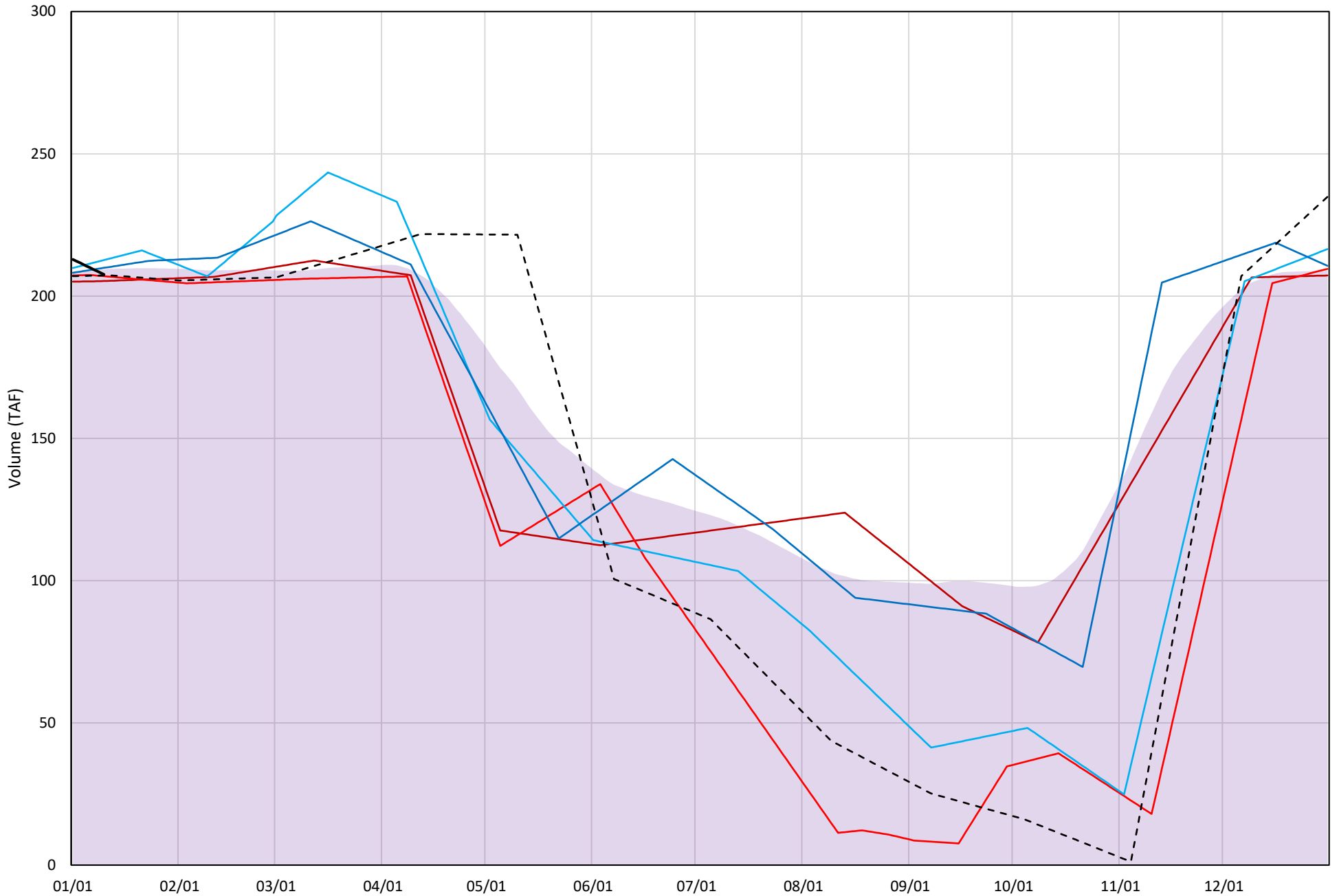
Whiskeytown Lake Cold Water Pool Volume ≤60°F

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



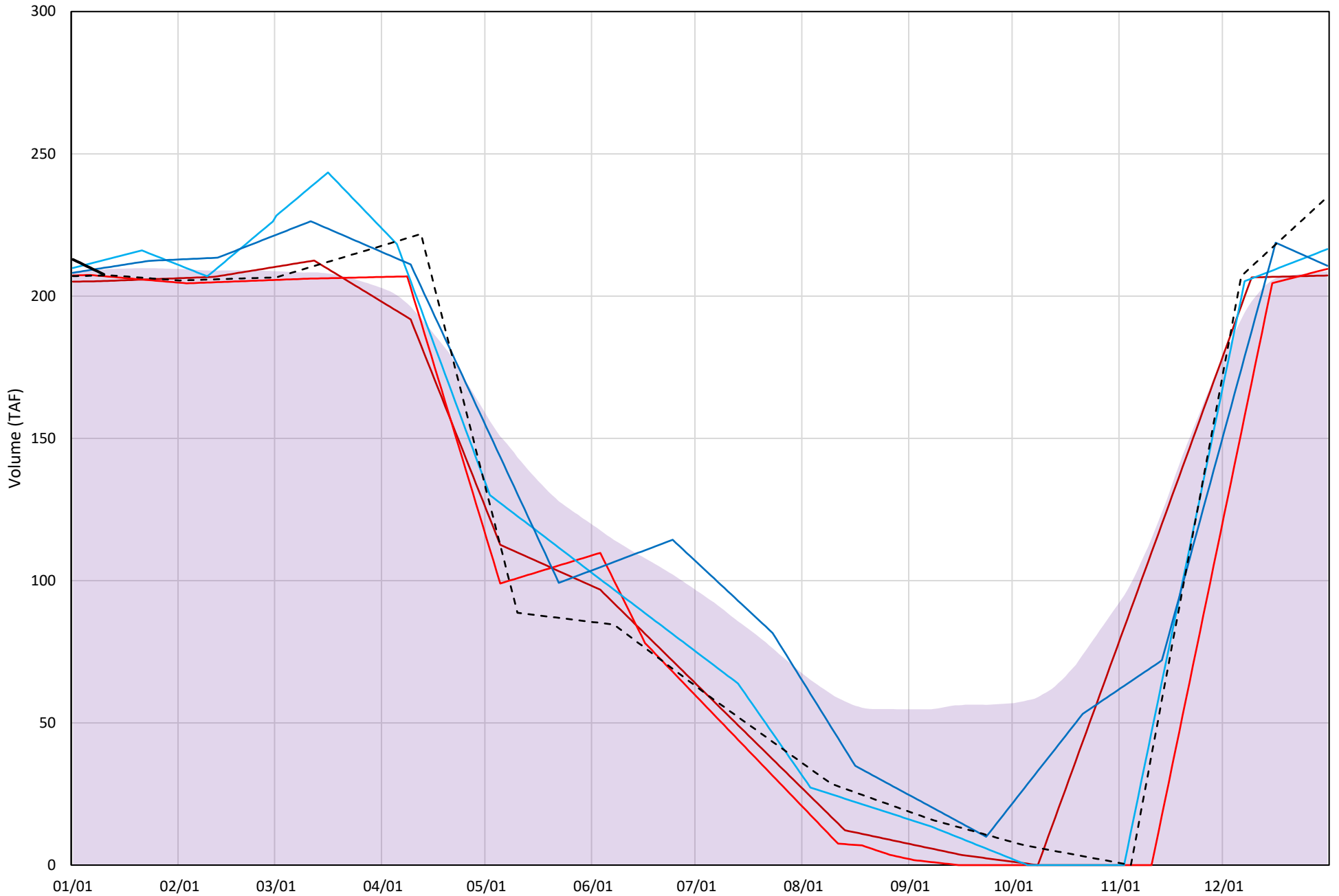
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

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



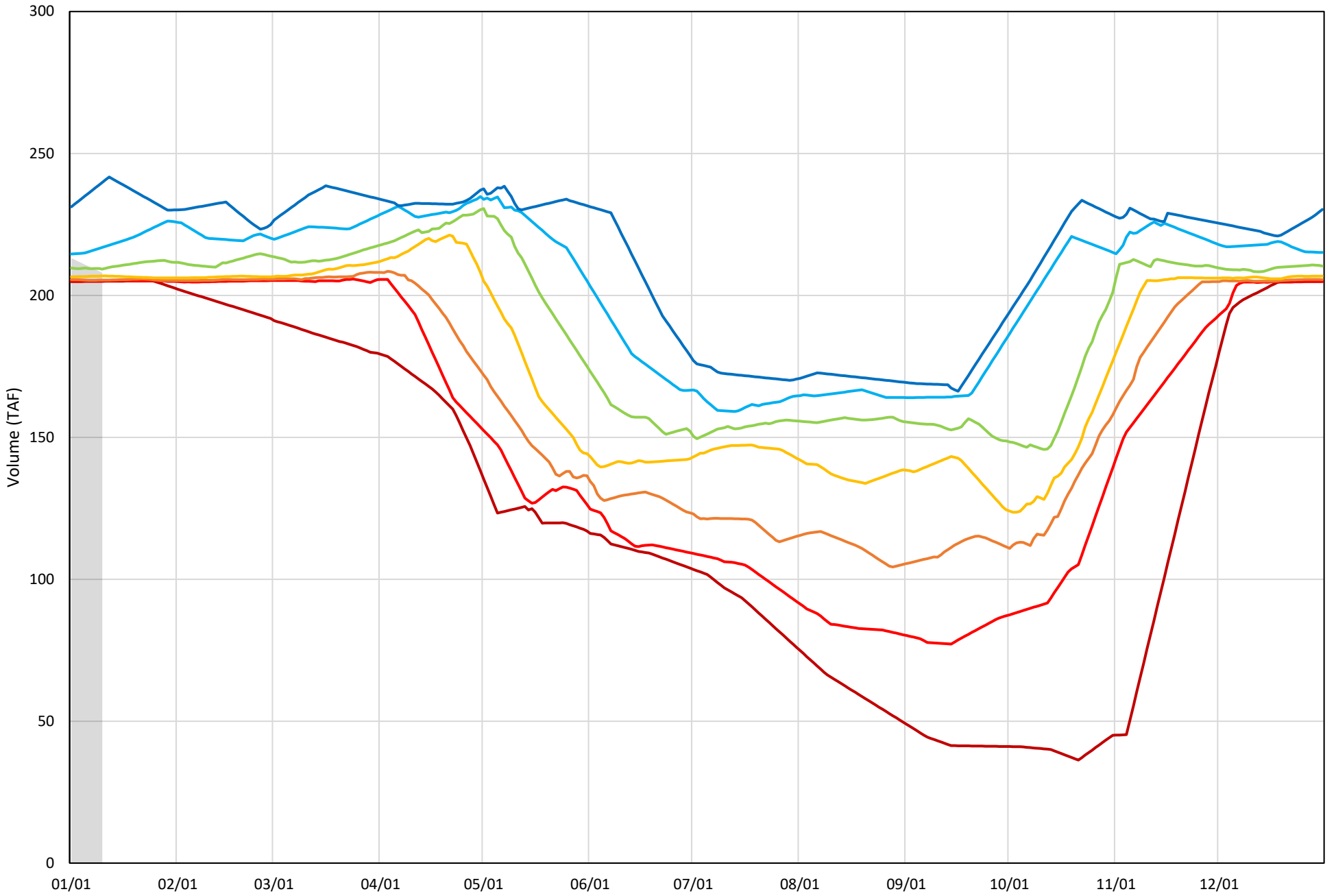
Whiskeytown Lake Cold Water Pool Volume ≤56°F

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



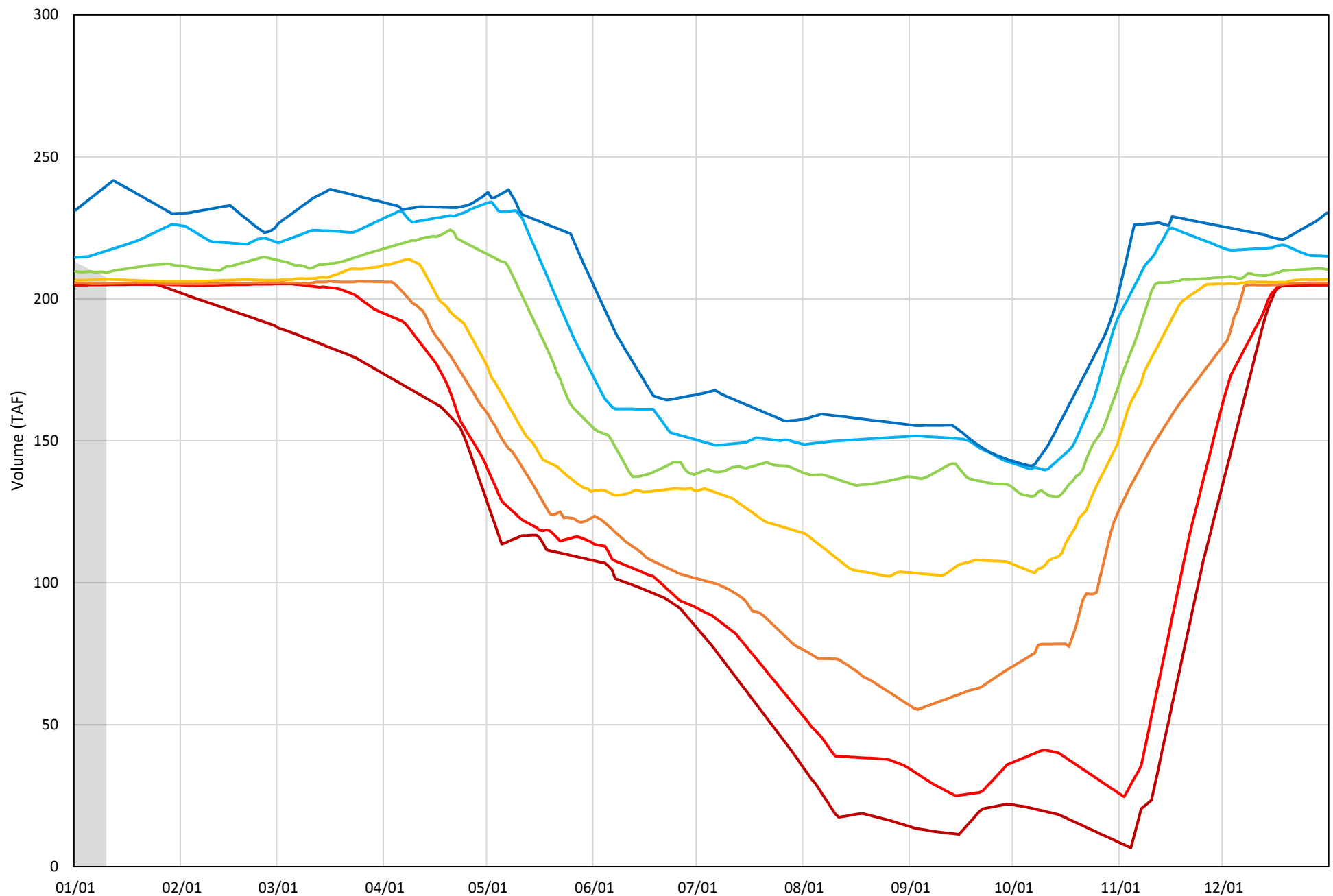
Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



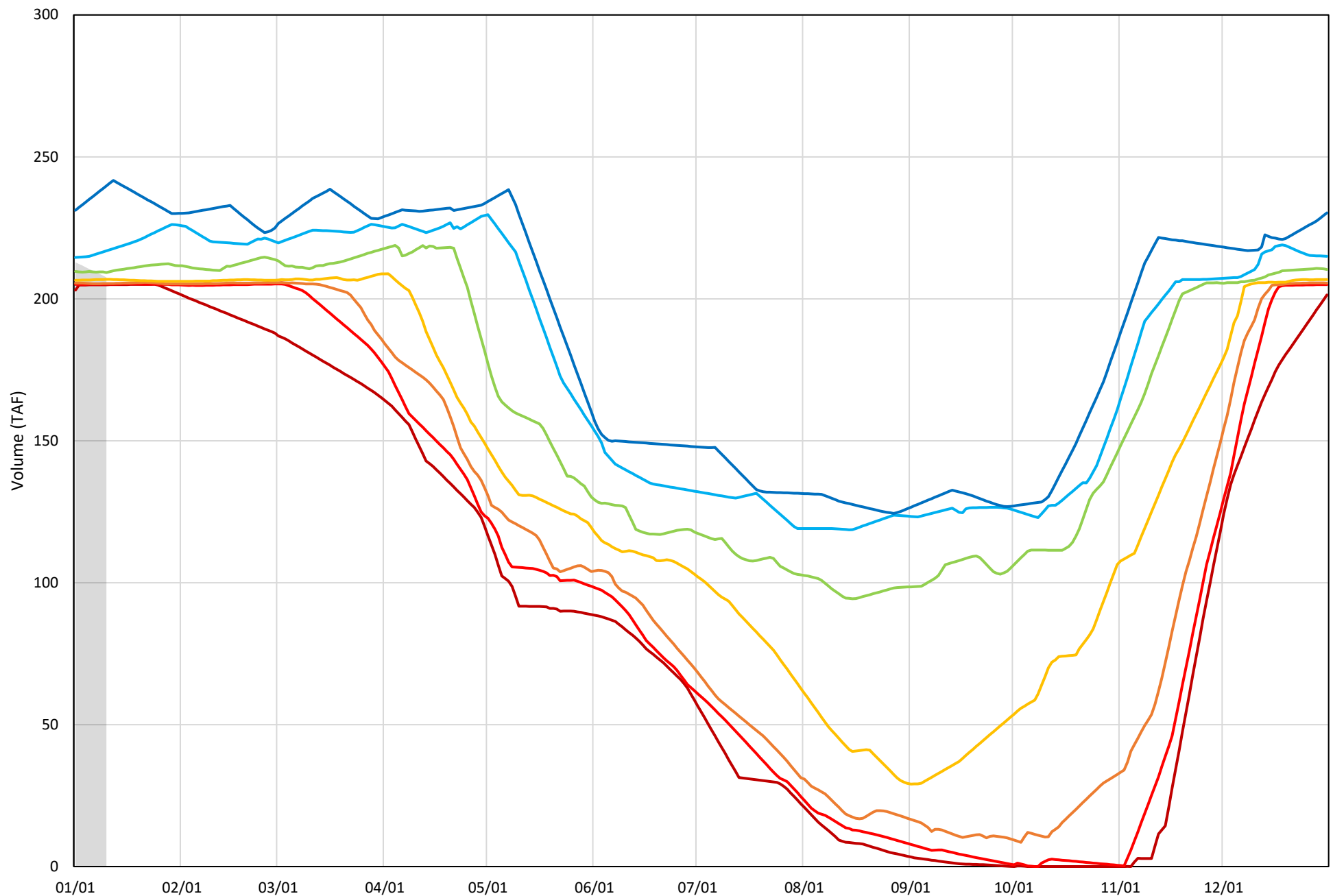
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

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)

Jan-11 2024	Δ TAF				% Δ			
	$\leq 60^\circ$	$\leq 58^\circ$	$\leq 56^\circ$	Abs. Avg.	$\leq 60^\circ$	$\leq 58^\circ$	$\leq 56^\circ$	Abs. Avg.
2000	-2.2	-1.8	-1.8	1.9	-1.0	-0.9	-0.9	0.9
2001	3.2	3.5	3.5	3.4	1.5	1.7	1.7	1.6
2002	0.8	1.2	1.2	1.1	0.4	0.6	0.6	0.5
2003	-1.3	-0.9	-0.9	1.1	-0.6	-0.4	-0.4	0.5
2004	-1.5	-1.1	-1.1	1.2	-0.7	-0.5	-0.5	0.6
2005	1.3	1.7	1.7	1.6	0.6	0.8	0.8	0.8
2006	-2.2	-1.8	-1.8	2.0	-1.1	-0.9	-0.9	0.9
2007	-2.6	-2.3	-2.3	2.4	-1.3	-1.1	-1.1	1.1
2008	-3.1	-2.7	-2.7	2.8	-1.5	-1.3	-1.3	1.4
2009	-1.2	-0.8	-0.8	0.9	-0.6	-0.4	-0.4	0.5
2010	1.0	1.4	1.4	1.3	0.5	0.7	0.7	0.6
2011	-2.7	-2.4	-2.4	2.5	-1.3	-1.1	-1.1	1.2
2012	-2.4	-2.0	-2.0	2.2	-1.2	-1.0	-1.0	1.0
2013	-0.8	-0.4	-0.4	0.5	-0.4	-0.2	-0.2	0.2
2014	-2.7	-2.3	-2.3	2.4	-1.3	-1.1	-1.1	1.2
2015	-1.0	-0.6	-0.6	0.7	-0.5	-0.3	-0.3	0.4
2016	4.7	5.0	5.0	4.9	2.2	2.4	2.4	2.4
2017	13.2	13.6	13.6	13.5	6.4	6.6	6.6	6.5
2018	-2.8	-2.4	-2.4	2.6	-1.4	-1.2	-1.2	1.2
2019	1.9	2.3	2.3	2.2	0.9	1.1	1.1	1.1
2020	-1.1	-0.7	-0.7	0.8	-0.5	-0.3	-0.3	0.4
2021	-2.7	-2.3	-2.3	2.4	-1.3	-1.1	-1.1	1.2
2022	-0.7	-0.4	-0.4	0.5	-0.4	-0.2	-0.2	0.2
2023	38.0	38.4	38.4	38.3	18.3	18.5	18.5	18.4
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Historical - Current

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(Historical - Current) / Current