

Northern CVP Water Temperature Report

November - 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
Oct	51.5	50.8	55.2	52.2	52.5	53.0	54.0	54.6	55.5	55.0	48.1	51.0	54.1	5400	1078	6882	69.4	63.0	66.2
11/01	52.7	52.0	53.7	52.3	52.2	52.4	52.5	52.5	52.9	51.9	46.7	47.9	49.2	4961	1102	6611	49.5	48.8	50.4
11/02	52.7 ?	52.0	53.7	52.4	52.4	52.7	53.0	52.9	53.1	52.4	46.8	48.0	49.8	5553	1032	6601	54.5	52.7	54.6
11/03	52.8 ?	52.3	53.5	52.5	52.5	52.8	52.9	52.9	53.5	52.0	46.5	48.2	50.0	6238	1084	6634	55.5	53.8	56.3
11/04	52.8	52.3	53.5	52.4	52.5	52.9	53.0	52.9	53.3	52.2	46.3	47.4	49.3	4928	1113	6641	62.5	56.7	59.3
11/05	53.0	52.5	53.2	52.4	52.4	52.8	52.9	52.9	53.3	52.1	46.4	47.3	48.9	5067	415	6408	58.0	57.0	58.2
11/06	53.7	53.3	53.3	52.3	52.3	52.5	52.3	52.1	52.5	51.3	46.3	46.2	48.0	4537	1116	6408	61.5	57.0	58.0
11/07	53.2 !	52.1	53.2	52.6	52.6	52.8	52.5	52.0	52.2	51.2	46.4	45.3	47.0	4873	1054	6212	58.5	49.9	53.9
11/08	53.1	52.6	53.2	52.9	52.8	53.1	52.8	52.3	52.5	50.8	46.6	45.3	46.4	5300	1049	6103	53.0	47.5	50.8
11/09	53.2	52.6	53.2	52.4	52.5	52.7	52.6	52.3	52.6	50.9	46.5	45.6	46.1	6005	467	5910	52.0	47.5	51.4
11/10	53.4	52.9	53.1	52.6	52.6	52.9	52.8 #		52.8	51.3	46.5	46.6	48.1	4477	1106	5708	54.5	50.5	54.8
11/11	53.4	52.8	53.3	52.7	52.6	52.9	52.9 #		53.2	51.5	46.5	47.4	48.5	4059	1139	5508	53.0	53.1	55.1
11/12	53.6	53.3	53.2	52.8	52.8	53.2	53.2 #		53.0	51.2	46.5	46.9	48.9	4528	722	5361	53.5	50.2	50.9
11/13	53.5	52.8	53.6	52.7	52.6	52.6	52.7 #		53.1	51.3	46.5	47.4	48.4	4740	45	5115	52.0	51.5	51.6
11/14	53.6	52.9	53.3	52.8	52.8	53.0	53.0 #		52.8	51.8	46.5	46.9	48.2	4796	44	4909	50.5	50.8	51.7
11/15	53.7	53.0	53.4	52.6	52.5	52.4	52.3 #		52.4	50.8	46.3	46.0	47.2	4771	44	4748	49.0	45.2	48.6
11/16	53.6	52.9	53.3	52.4	52.3	52.1	51.7 #		51.4	50.3	46.1	44.9	45.7	4790	44	4588	49.0	46.5	47.4
11/17	53.7	53.0	53.1	52.5	52.4	52.4	52.2 #		51.5	51.0	46.2	45.4	46.0	4382	44	4349	48.5	47.6	49.0
11/18	54.0	53.2	53.2	52.5	52.2	52.0	51.7 #		51.4	50.3	45.9	44.4	45.4	3681	46	4394	44.5	42.5	47.0
11/19	53.8	53.1	53.3	52.4	52.0	51.3	50.9 #		50.2	50.1	45.8	43.7	43.9	4076	52	4336	39.5	38.4	40.6
11/20	53.5	52.9	53.3	52.3	51.7	51.1	50.6 #		49.6	49.5	45.6 ?	41.2	42.6	4144	4663	4204	47.0	47.2	49.0
11/21	53.6	53.2	53.0	52.5	51.3	51.7	49.4 #		49.8	50.2	45.4	42.1	41.8	3356	482	4211	49.5	49.5	51.2
11/22	54.4	54.4	53.0	52.5	52.0	52.4	51.3 #		50.7	51.7	45.4	44.1	44.0	2176	1031	4209	52.5	54.3	54.8
11/23	53.6	53.8	52.8	52.6	52.5	52.8	52.1 #		52.2	51.3	45.2	44.9	45.5	3278	424	4203	53.0	52.2	53.3
11/24	53.3	52.8	52.4	52.7	52.5	52.5	51.3 #		51.2	50.6	44.8	44.7	45.3	3735	137	4201	49.0	48.3	48.0
11/25	53.4	52.9	53.1	53.1	52.8	52.8	52.1 #		51.3	50.7	44.6	45.1	45.7	3013	671	4202	50.0	49.5	51.1
11/26	53.0	52.6	52.4	52.9	52.8	53.1	52.3 #		52.0	50.7	44.3	45.2	46.3	3112	905	4206	50.0	48.8	51.5
11/27	53.1	52.6	52.8	52.3	52.1	52.1	50.8 #		51.2	49.1	44.1	43.8	44.9	3006	1222	4203	48.5	42.8	46.2
11/28	52.7	52.3	52.0	52.1	51.9	51.7	50.1 #		49.4	48.7	43.9	42.5	43.3	3968	131	4201	47.0	40.7	45.0
11/29	52.5	52.0	51.9	51.8	51.6	51.4	49.9 #		48.8	48.4	43.8	41.8	42.3	3726	137	4202	47.5	40.3	44.3
11/30	52.4	51.7	51.7	51.5	51.4	51.2	49.7 #		48.5	48.3	43.7	41.6	42.0	4007	150	4202	47.5	40.1	43.1
-																			
Nov	53.3	52.8	53.1	52.5	52.3	52.4	51.9	52.5	51.7	50.8	45.7	45.3	46.3	4309	722	5093	51.4	48.7	50.9
														Total CFS	129283	21671	152788		
														Total AF	256428	42984	303049		

Legend

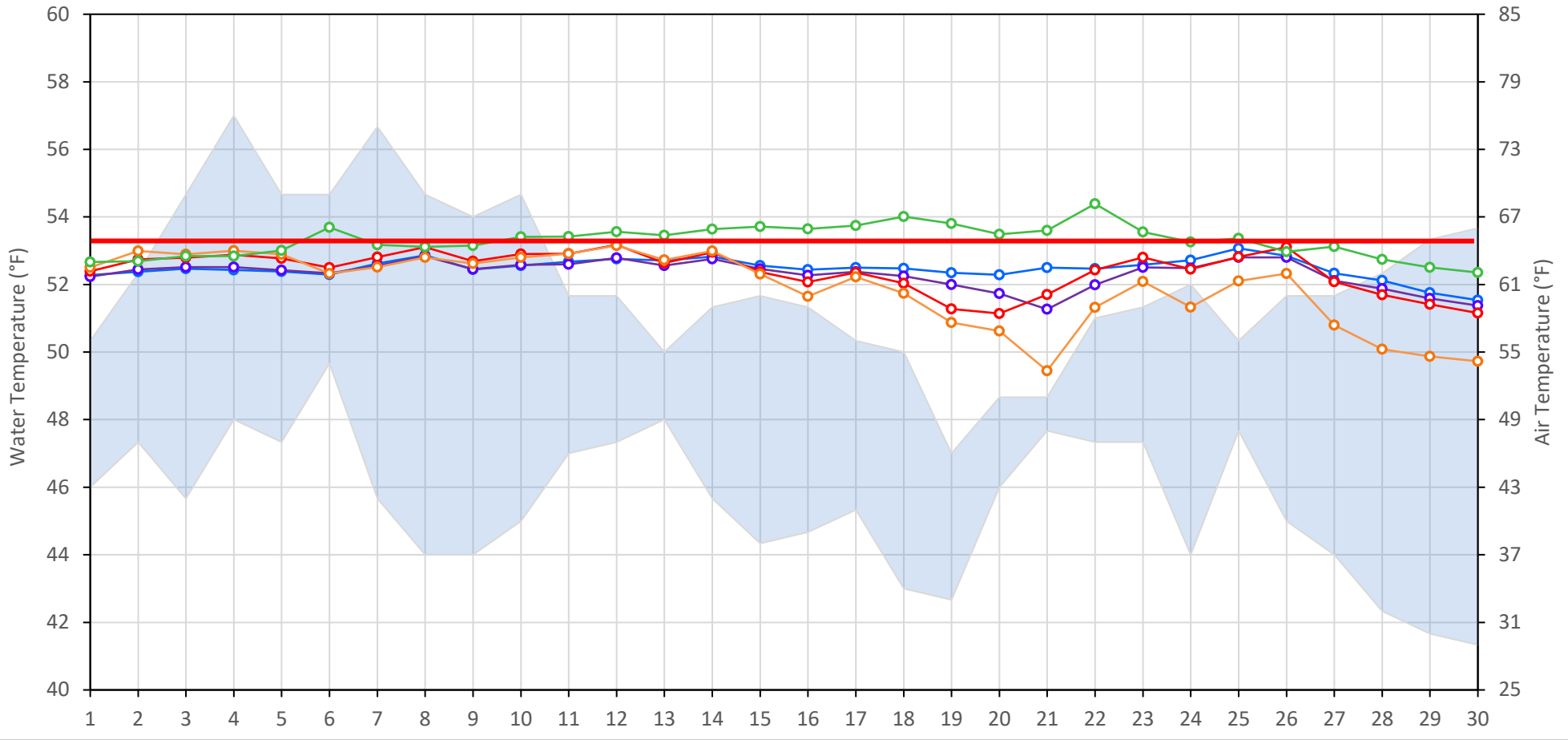
- ? = 1-9 hours of data missing (Average includes estimations)
- ! = 10 or more hours of data missing (Average not calculated)
- # = Station out of service
- ↑ = Record high air temperature
- ↓ = Record low air temperature
- = Monthly Averages

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

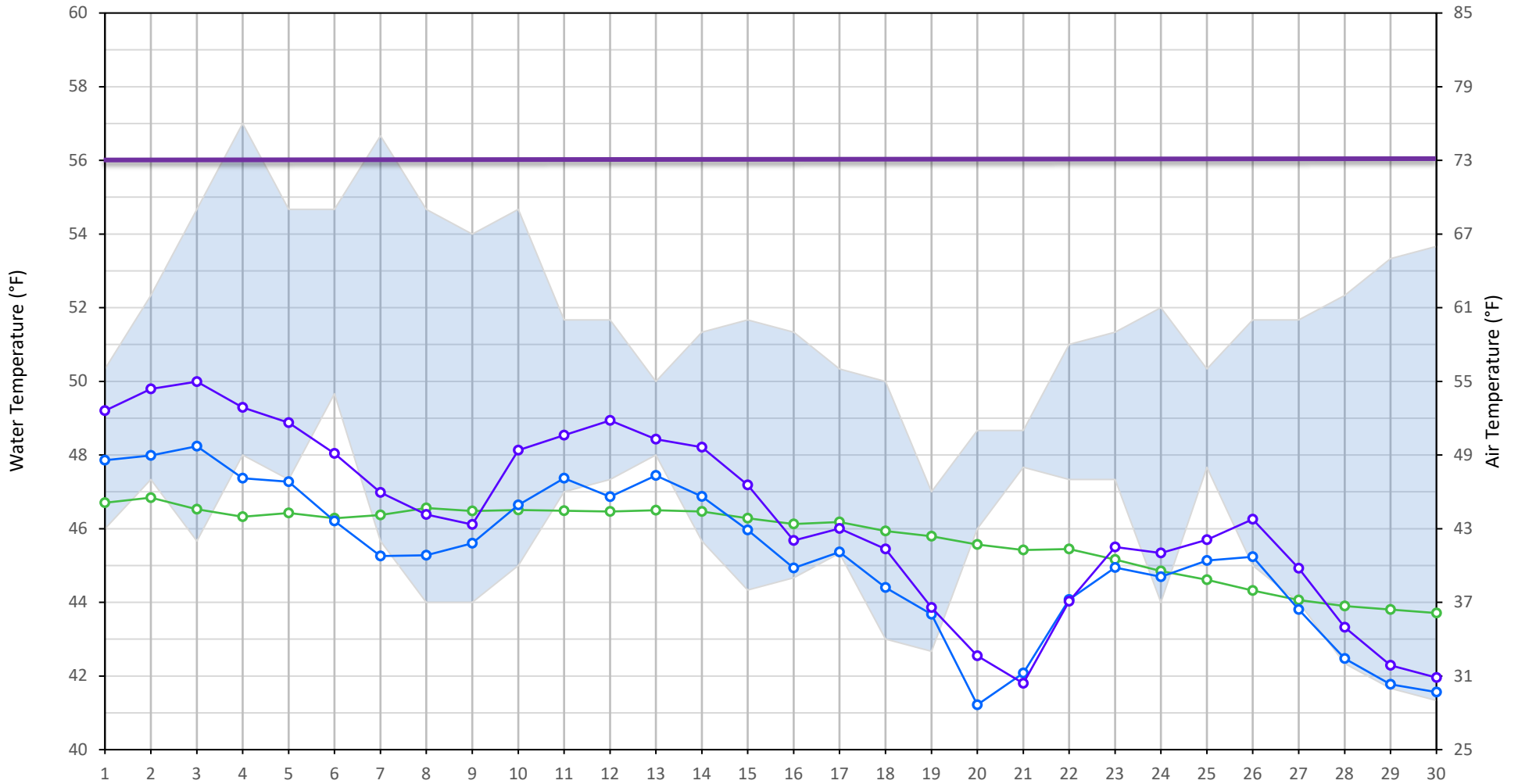
Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	CCR	53.5	05/24/2024	TBD

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

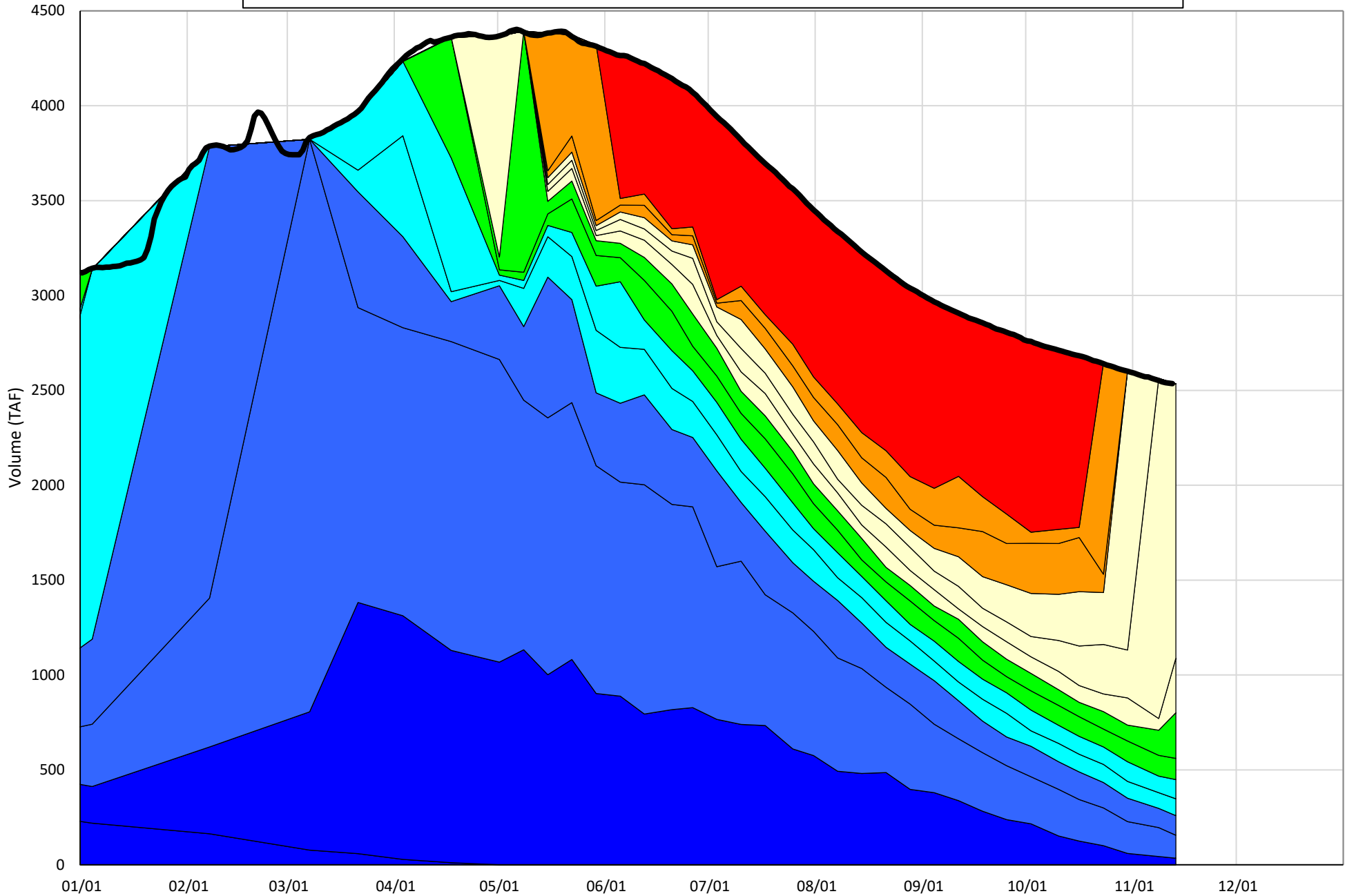
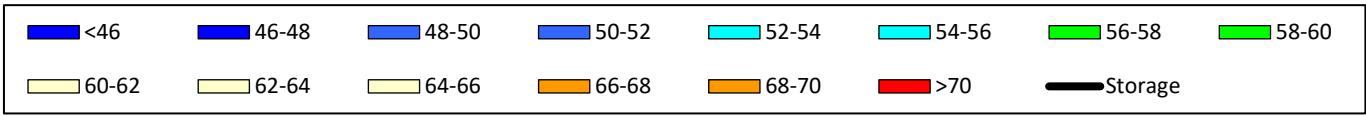
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

2024

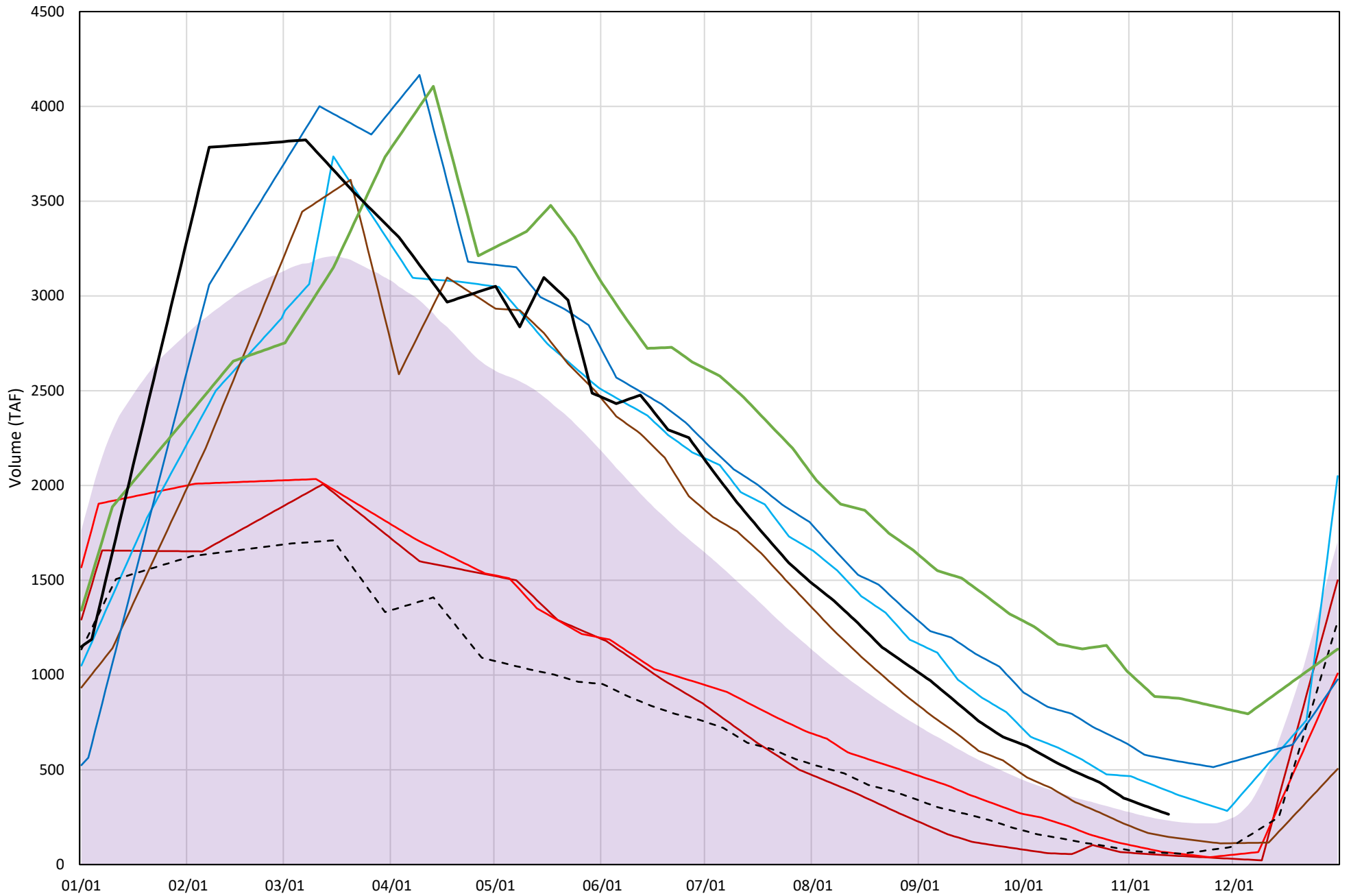
Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
8	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
9	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
10	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$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

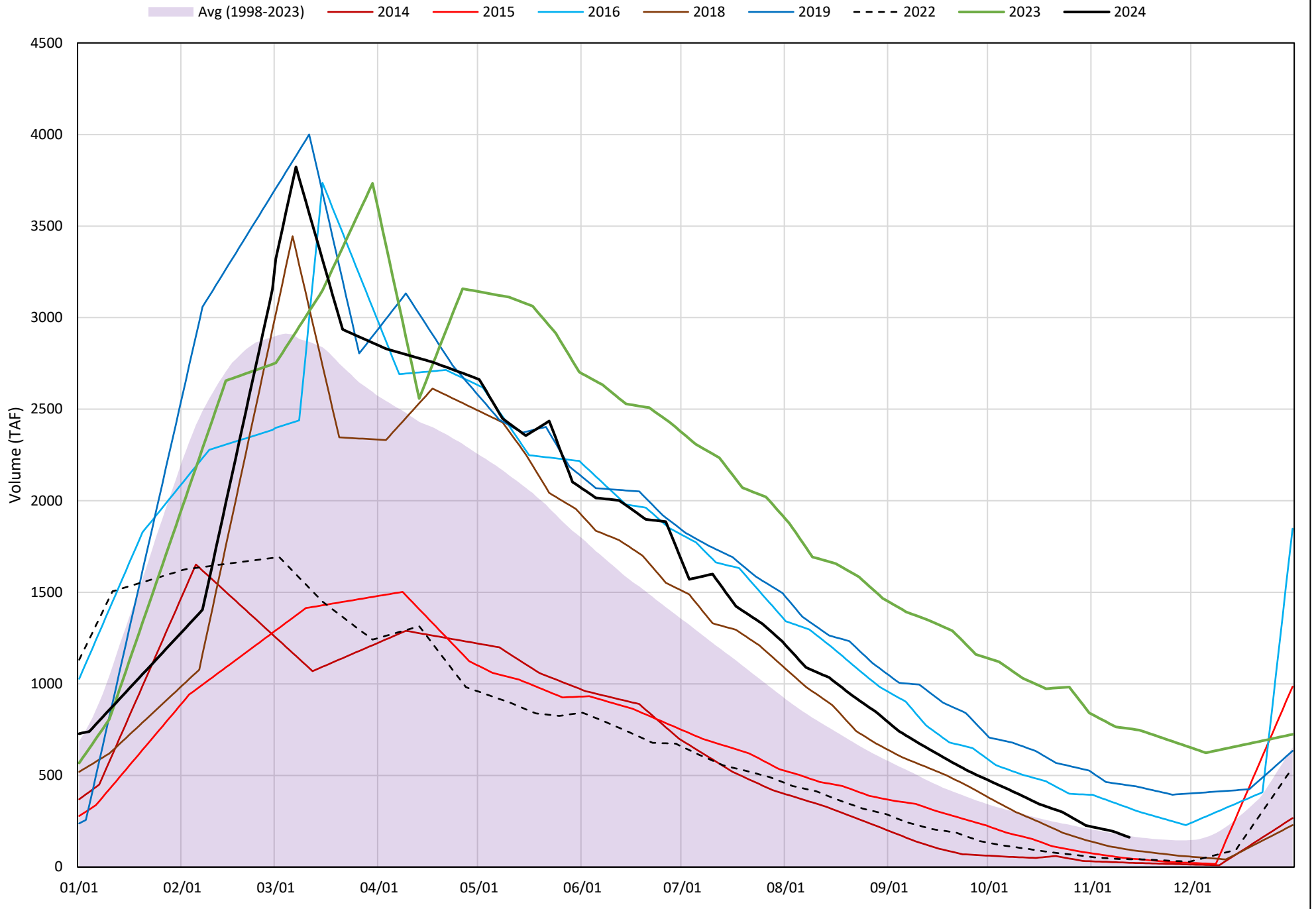


Shasta Lake Cold Water Pool Volume ≤52°F

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

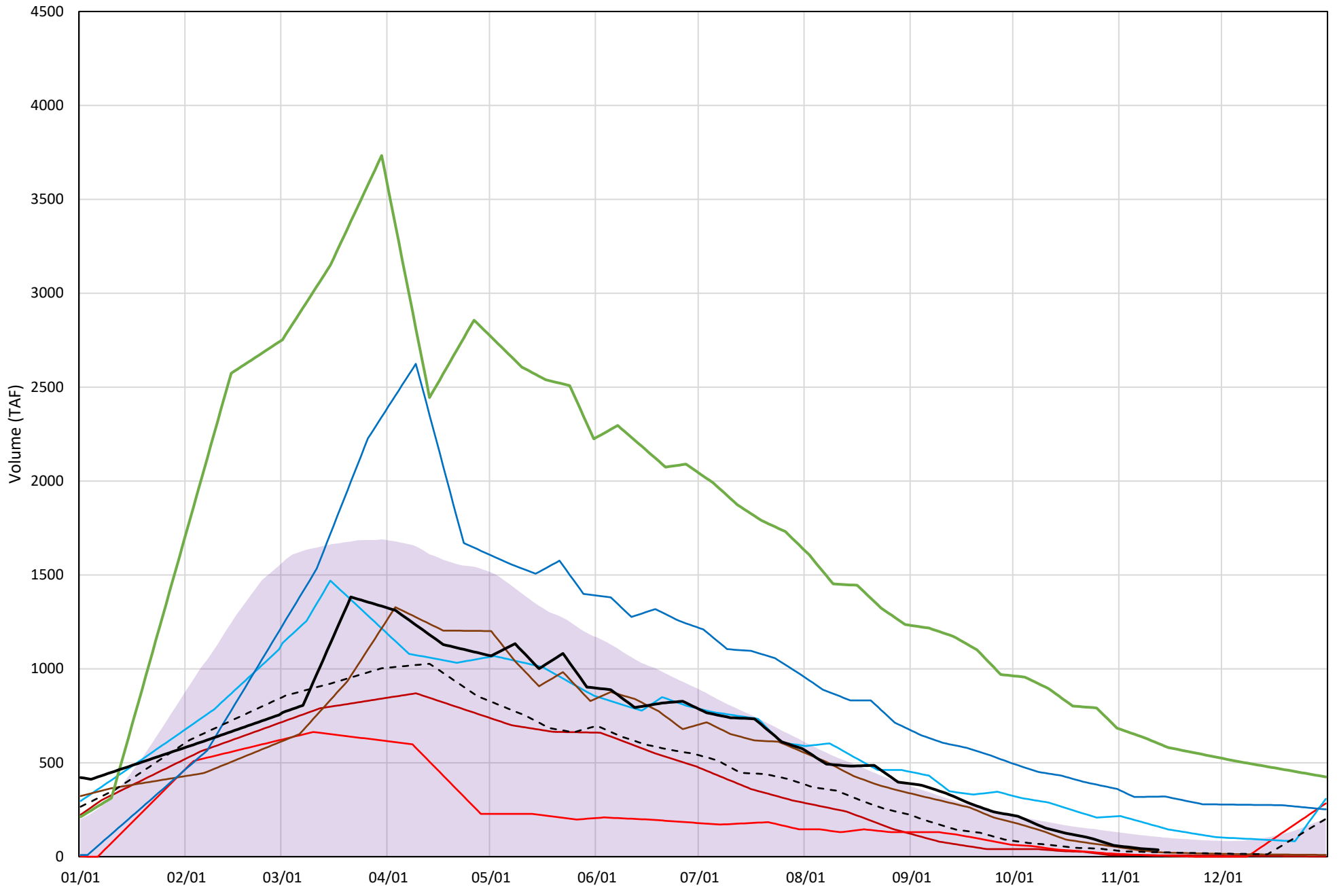


Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$



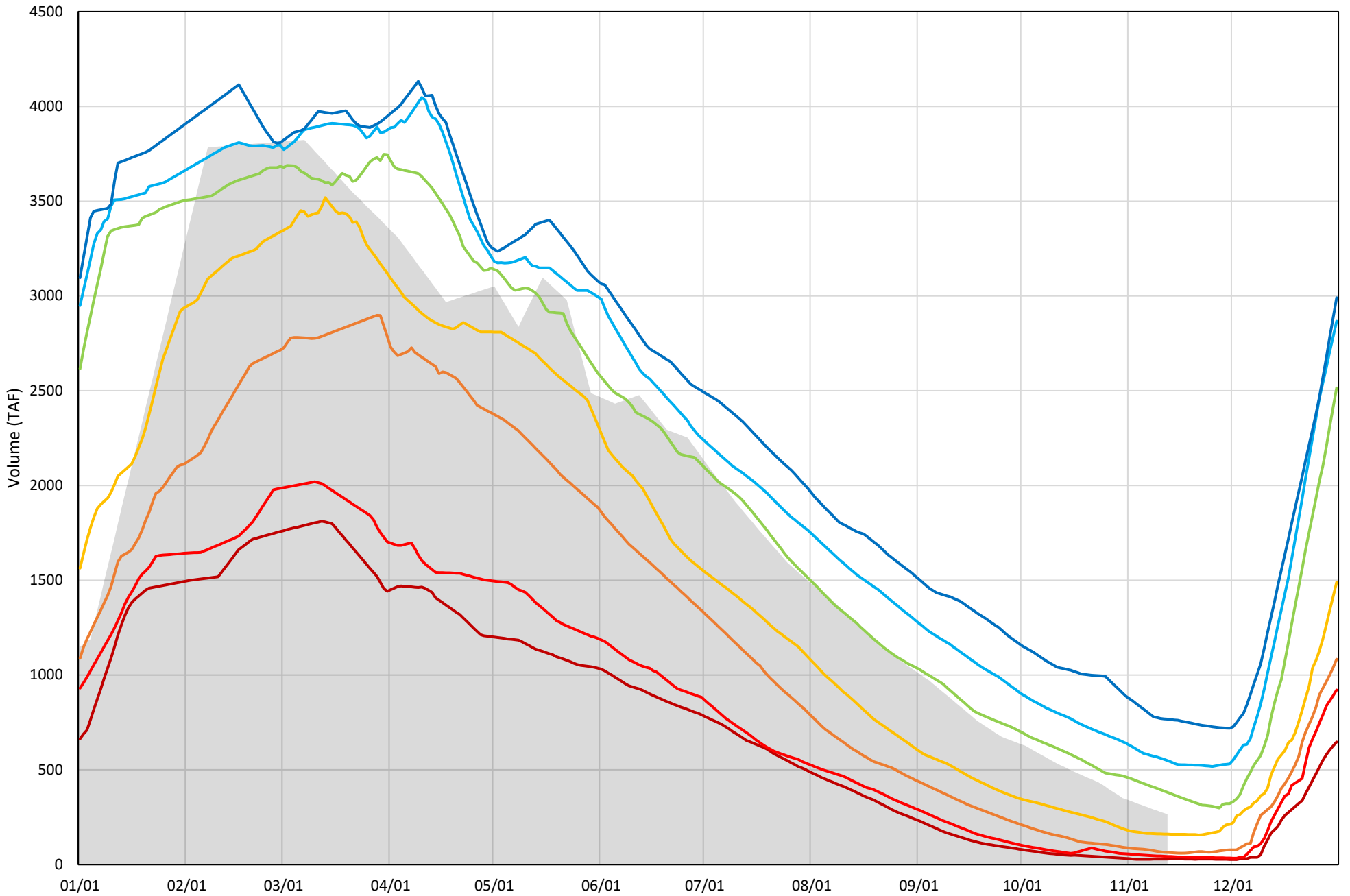
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

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



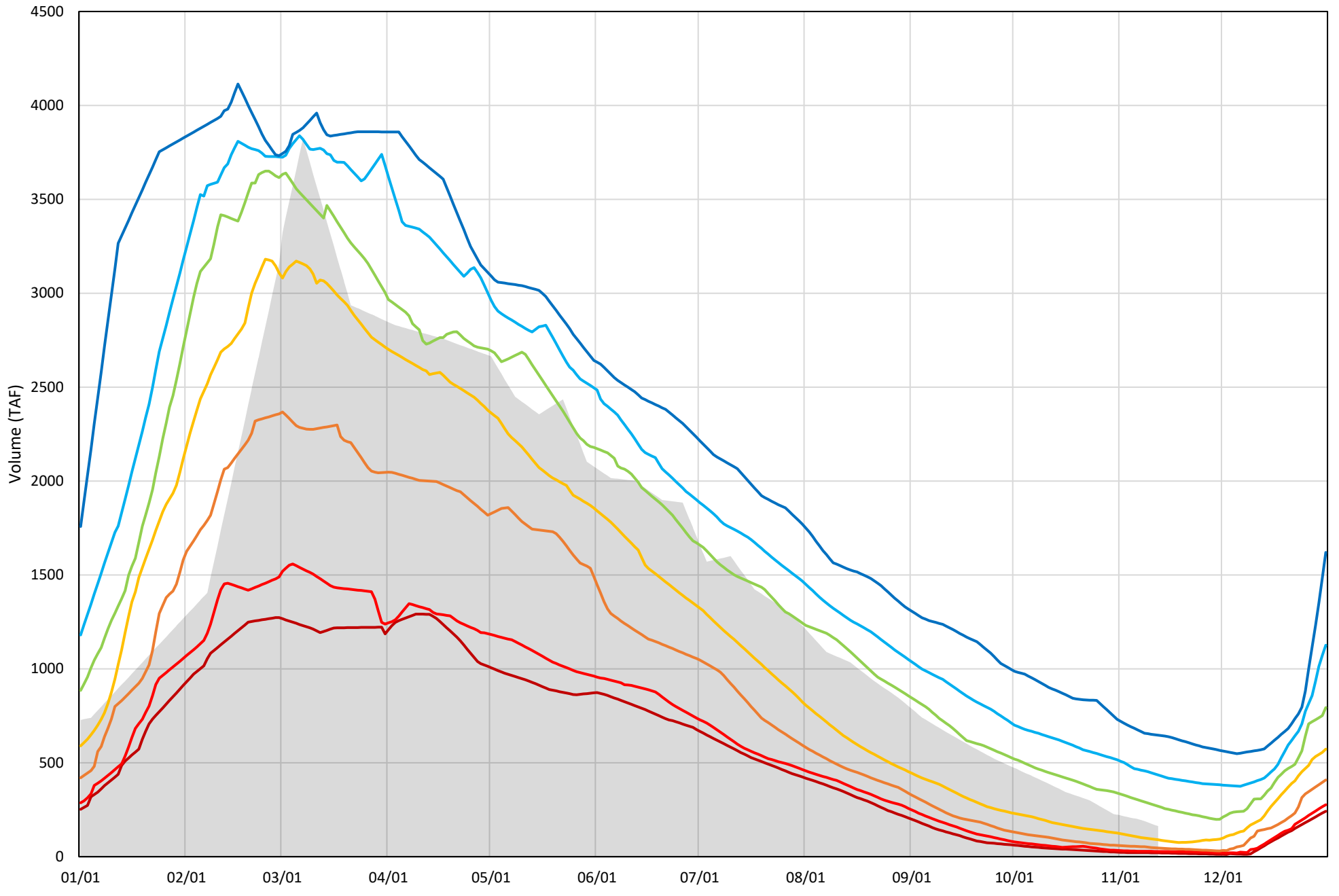
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

2024 95 90 75 50 25 10 5



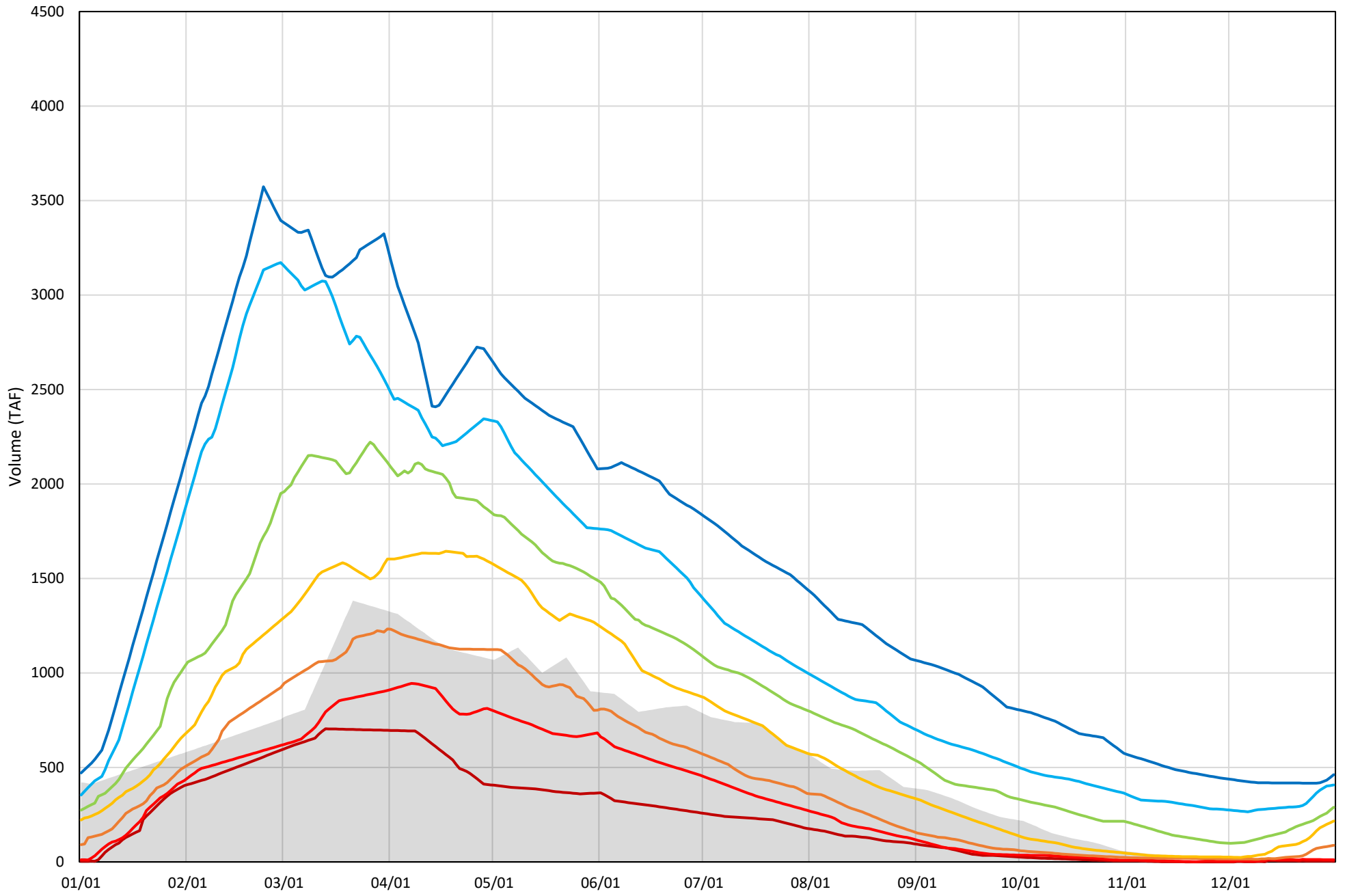
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2023)

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)

Nov-13 2024	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	-91	-119	-32	81	-34	-73	-89	65
1999	113	153	198	155	42	94	544	227
2000	-57	-65	-9	44	-22	-40	-26	29
2001	-165	-89	10	88	-62	-55	28	49
2002	-27	16	61	35	-10	10	168	62
2003	-4	-63	-16	28	-1	-39	-45	28
2004	-190	-115	-11	105	-72	-70	-30	57
2005	-180	-110	-11	100	-68	-68	-29	55
2006	24	64	91	60	9	40	251	100
2007	-220	-126	-8	118	-83	-77	-22	61
2008	-226	-133	-16	125	-85	-82	-45	71
2009	-202	-109	-3	105	-76	-67	-8	50
2010	153	85	78	105	58	52	215	108
2011	280	268	285	278	106	165	785	352
2012	38	89	114	81	14	55	315	128
2013	-155	-78	19	84	-59	-48	53	53
2014	-217	-139	-29	128	-82	-86	-80	82
2015	-202	-115	-31	116	-76	-71	-84	77
2016	122	159	124	135	46	98	341	162
2017	169	180	215	188	64	111	592	255
2018	-119	-68	-12	66	-45	-42	-33	40
2019	289	283	283	285	109	174	780	354
2020	-162	-110	-25	99	-61	-68	-68	65
2021	-241	-144	-36	141	-91	-89	-100	93
2022	-205	-119	-12	112	-77	-73	-34	62
2023	616	593	567	592	232	364	1560	719
2024	0	0	0	0	0	0	0	0

Historical - Current

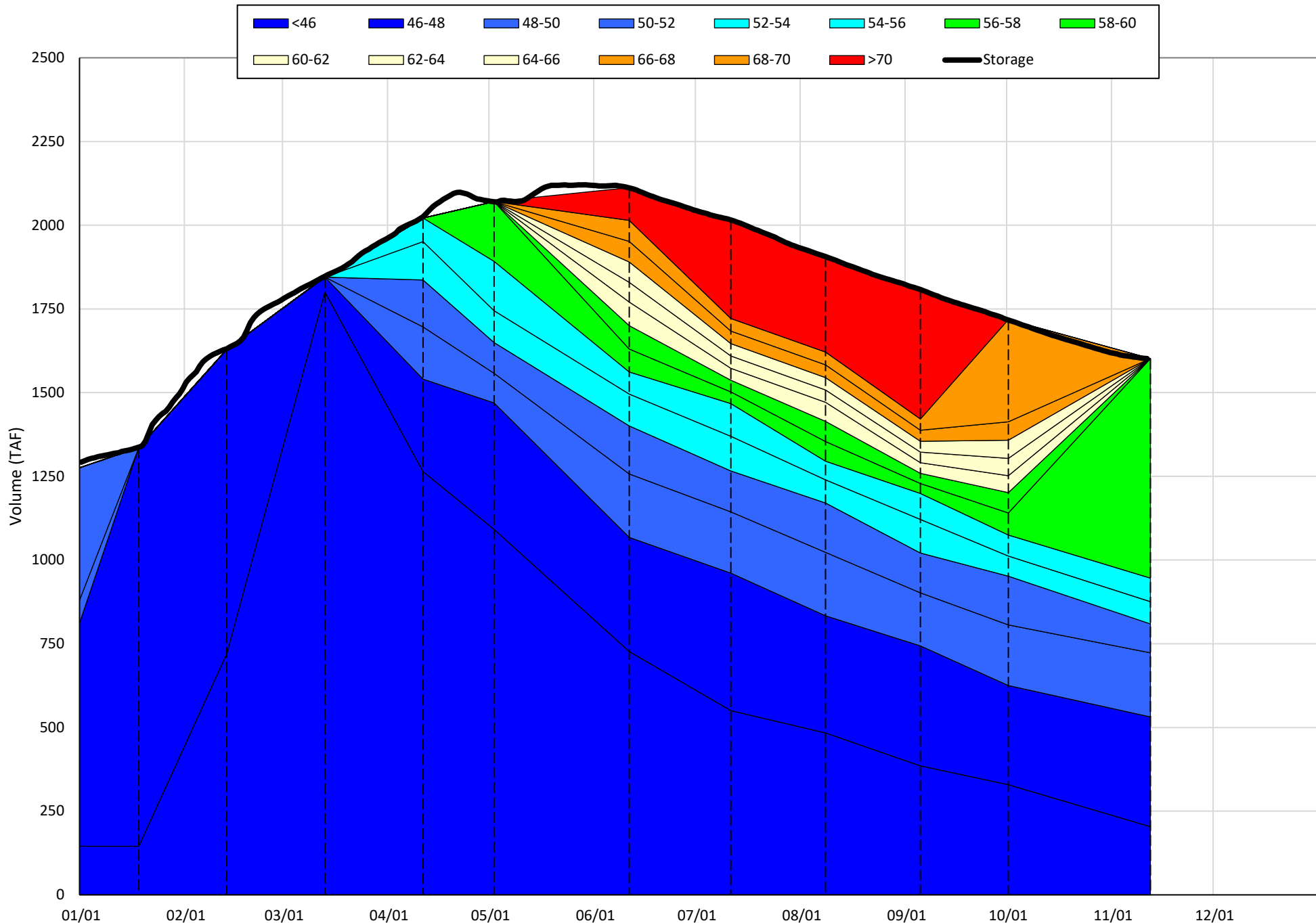
(Historical - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2024

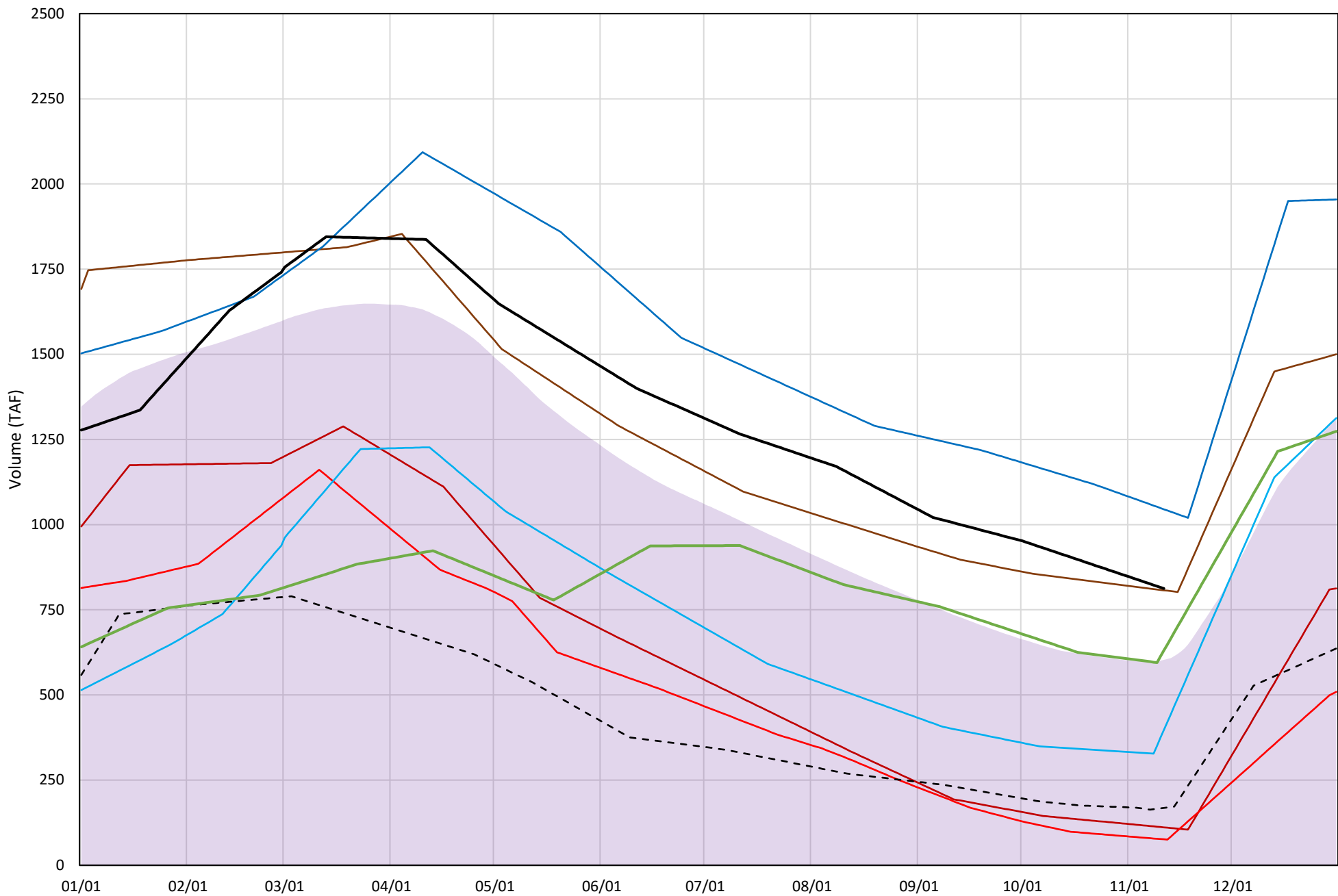
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq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



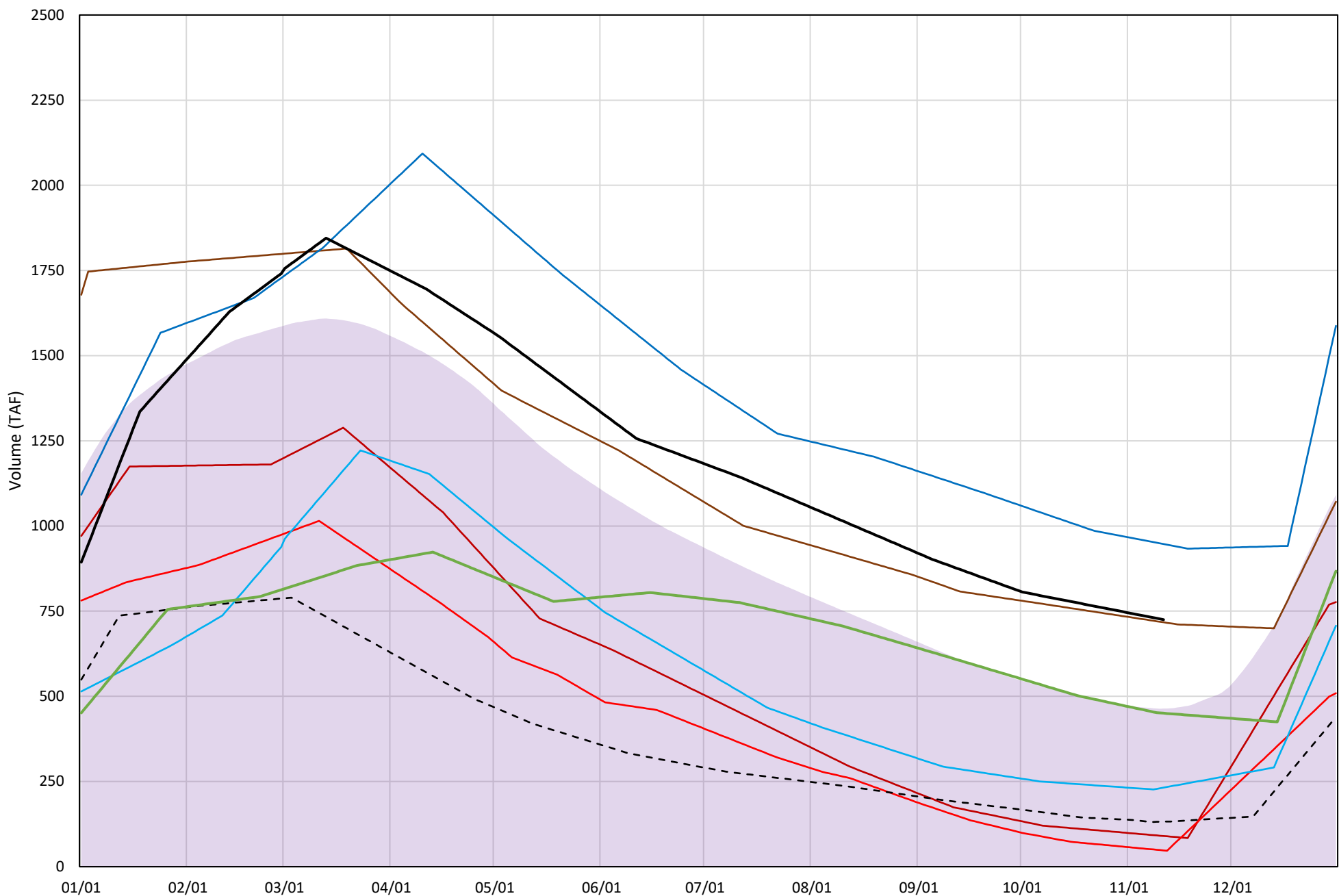
Trinity Lake Cold Water Pool Volume ≤52°F

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



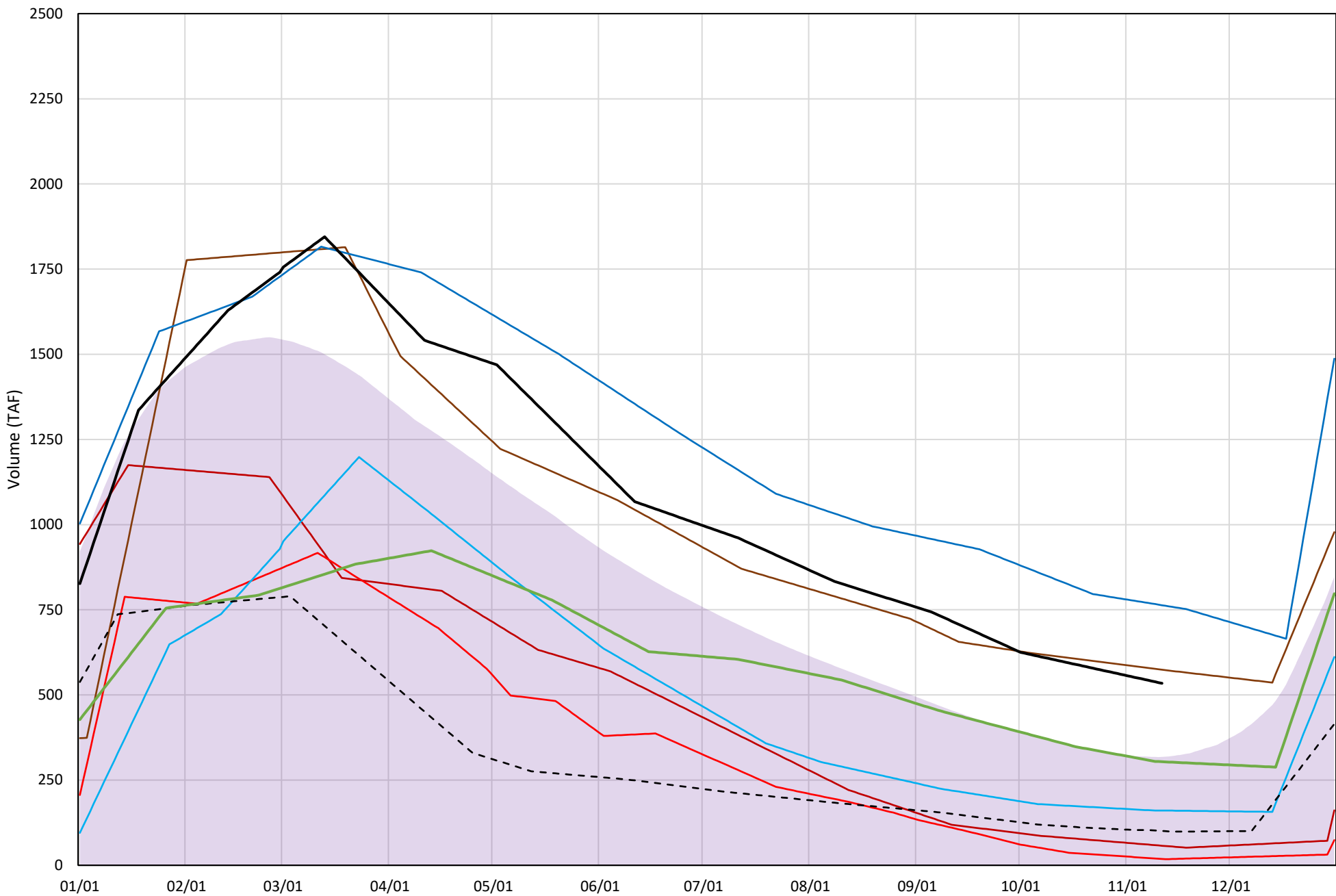
Trinity Lake Cold Water Pool Volume ≤50°F

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



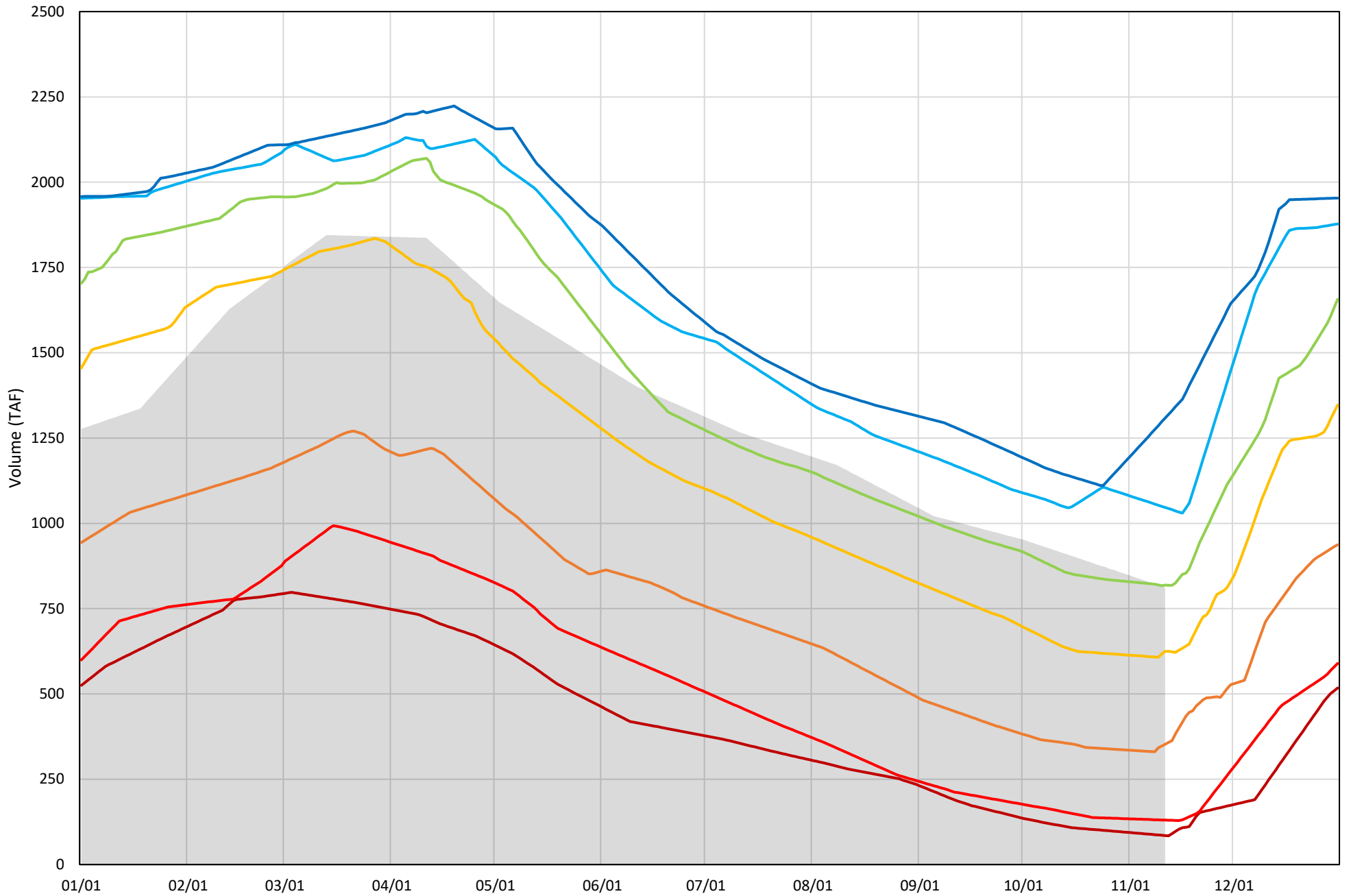
Trinity Lake Cold Water Pool Volume ≤48°F

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



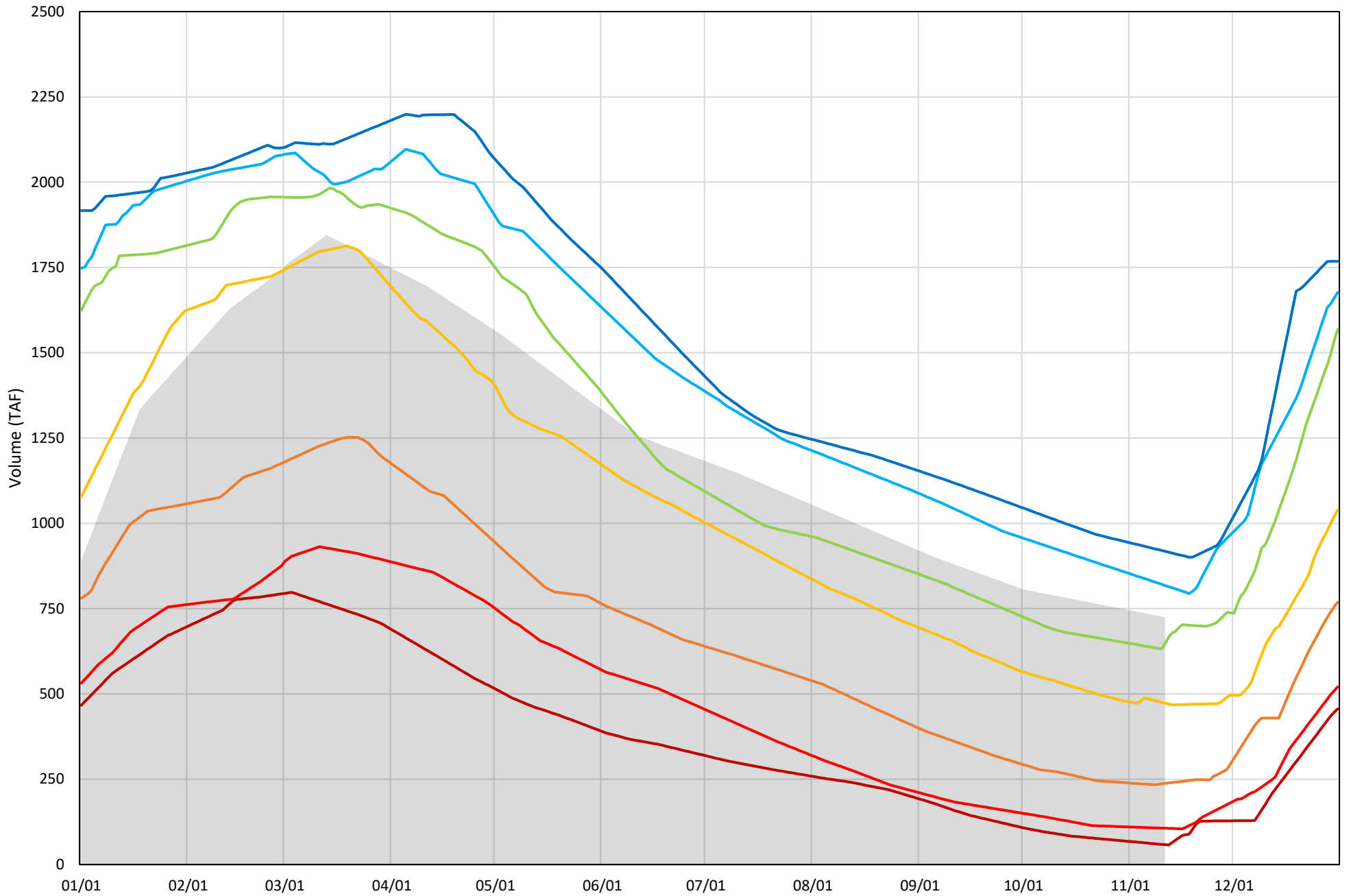
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



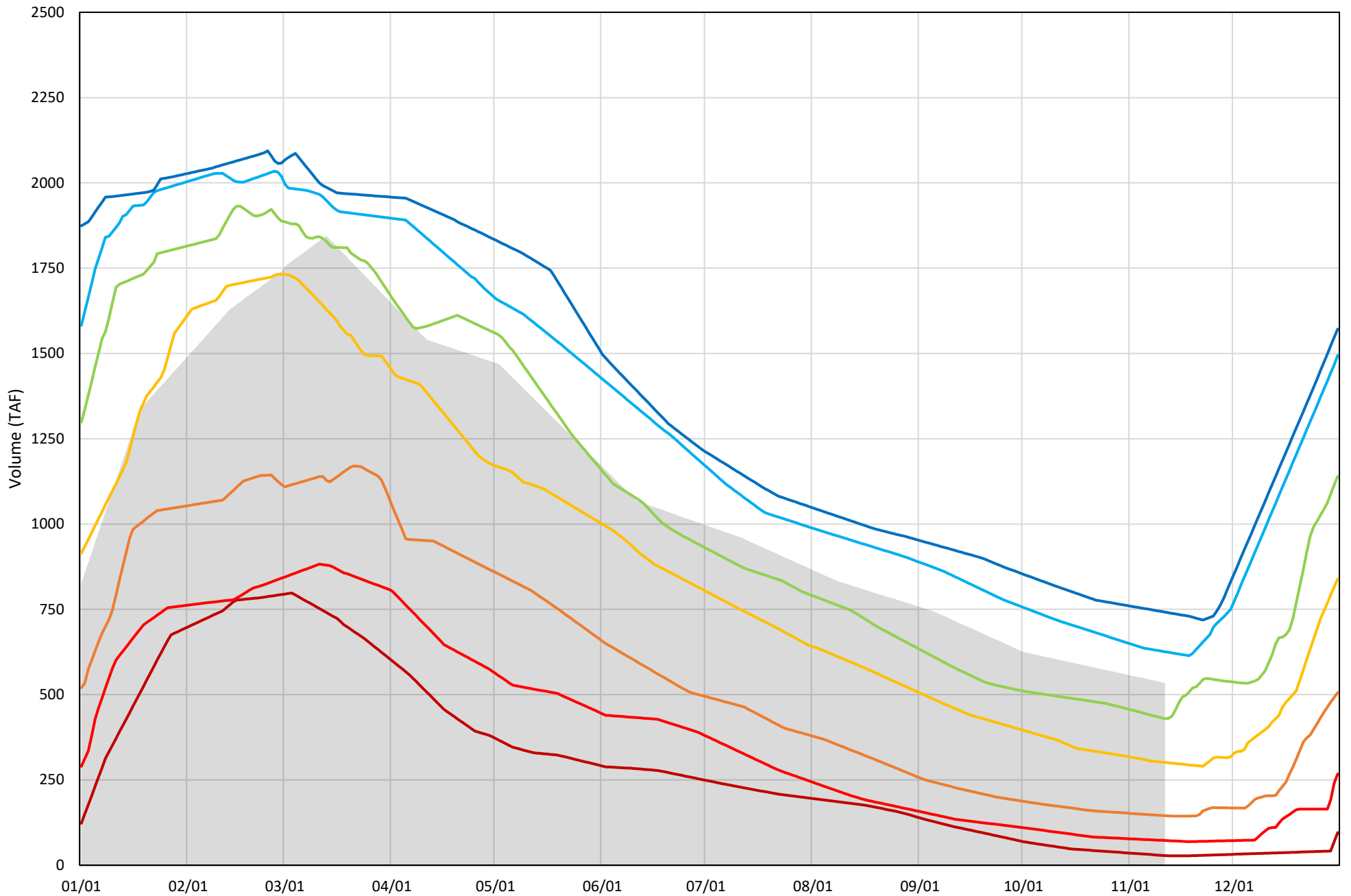
Trinity Lake Cold Water Pool Volume ≤50°F - Percent Exceedances (2000-2023)

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)

	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.
Nov-12								
2024								
2000	-78	-196	-236	170	-10	-27	-44	27
2001	-293	-296	-243	277	-36	-41	-45	41
2002	-253	-253	-180	229	-31	-35	-34	33
2003	-113	-250	-284	216	-14	-34	-53	34
2004	-303	-346	-328	326	-37	-48	-61	49
2005	24	-69	-182	92	3	-9	-34	16
2006	583	-36	-30	216	72	-5	-6	27
2007	-180	-168	-95	148	-22	-23	-18	21
2008	-539	-532	-408	493	-66	-73	-76	72
2009	-475	-470	-394	446	-58	-65	-74	66
2010	-37	-106	-144	96	-5	-15	-27	15
2011	236	106	21	121	29	15	4	16
2012	61	80	143	95	8	11	27	15
2013	-358	-363	-290	337	-44	-50	-54	49
2014	-701	-635	-477	604	-86	-88	-89	88
2015	-736	-677	-516	643	-91	-93	-97	94
2016	-415	-493	-373	427	-51	-68	-70	63
2017	11	-113	-134	86	1	-16	-25	14
2018	-5	-8	40	18	-1	-1	8	3
2019	233	222	229	228	29	31	43	34
2020	-193	-195	-188	192	-24	-27	-35	29
2021	-663	-602	-447	571	-82	-83	-84	83
2022	-644	-593	-434	557	-79	-82	-81	81
2023	-182	-275	-230	229	-22	-38	-43	34
2024	0	0	0	0	0	0	0	0

Historical - Current

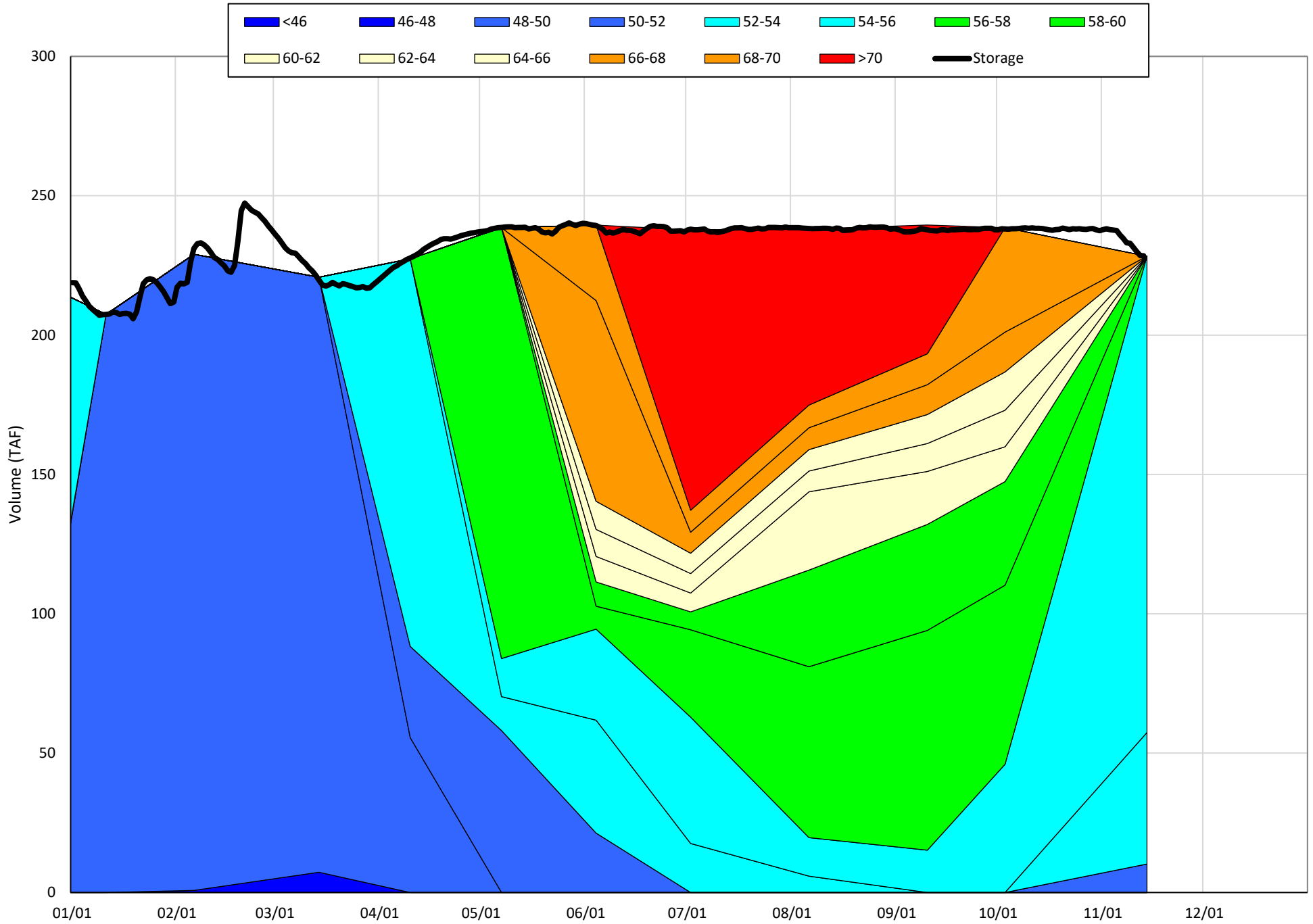
(Historical - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

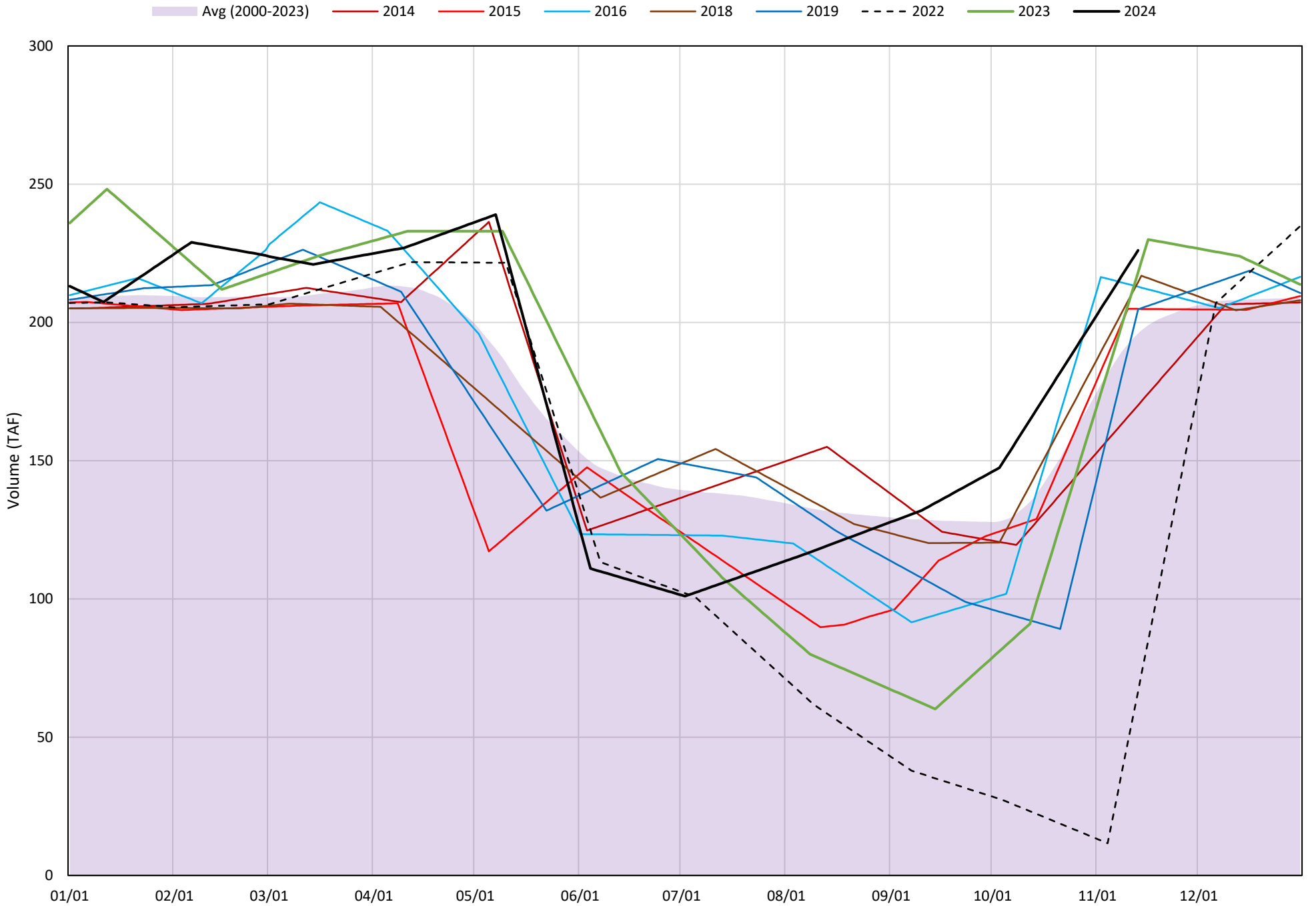
2024

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

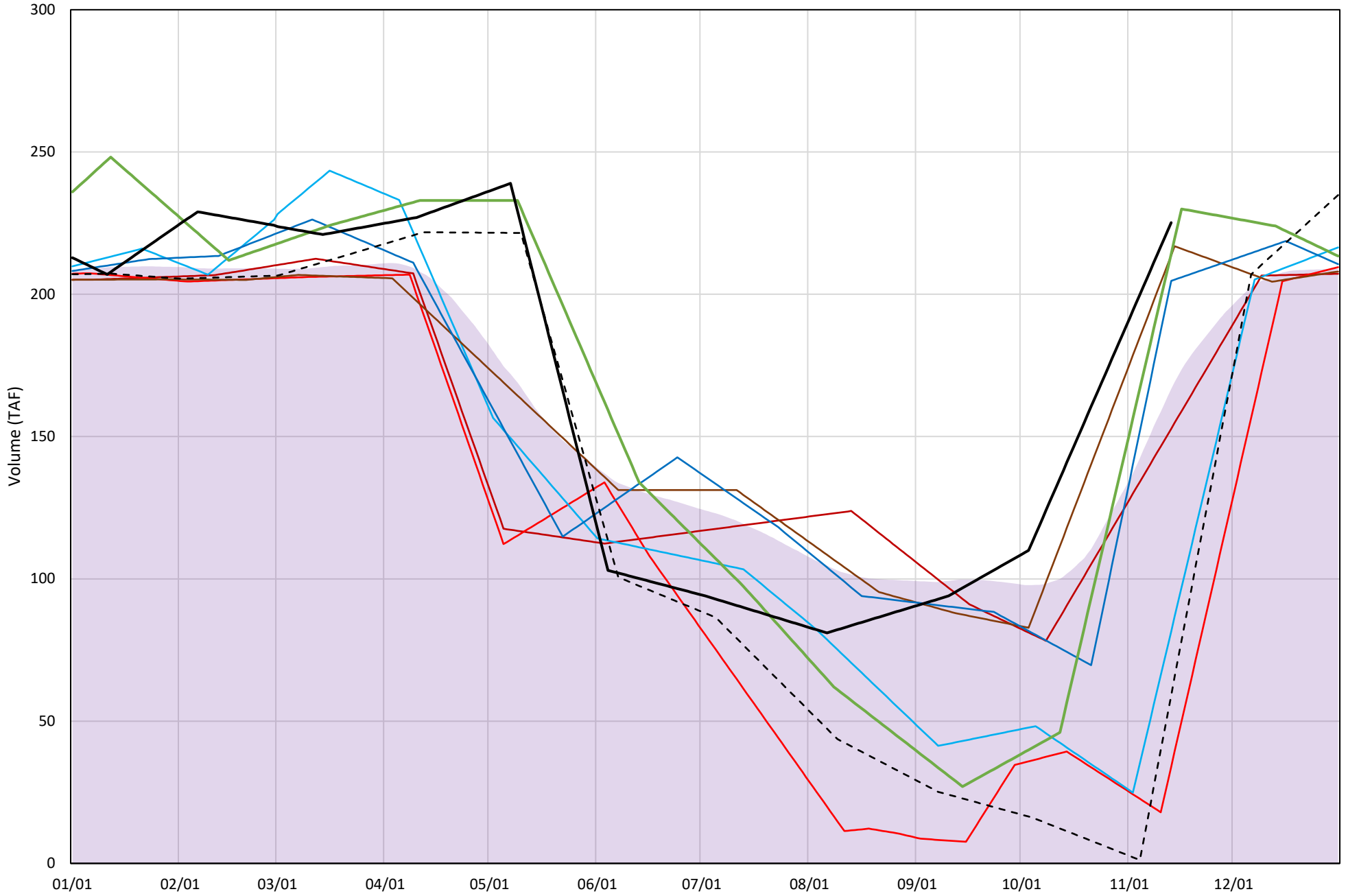


Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$

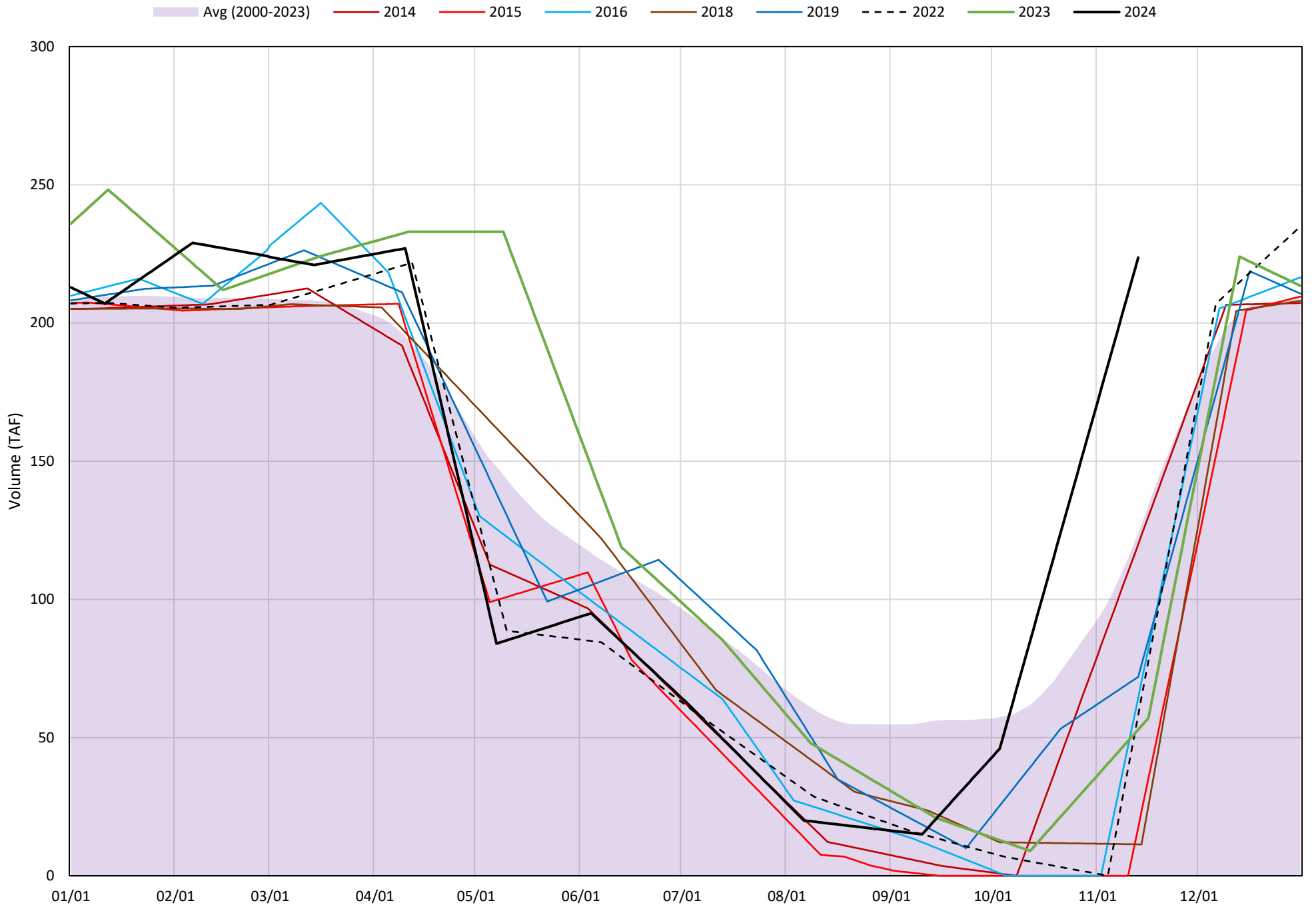


Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

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

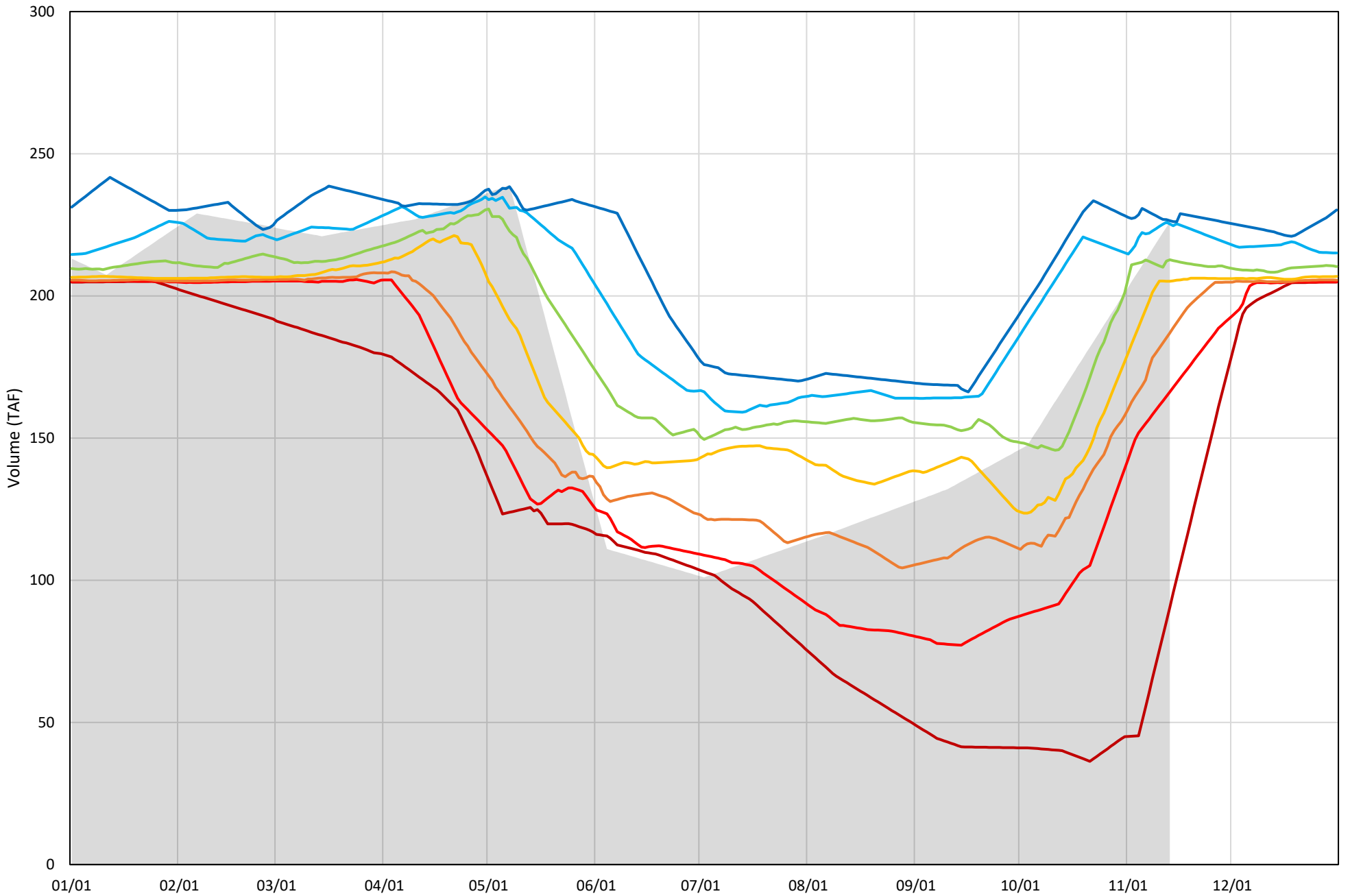


Whiskeytown Lake Cold Water Pool Volume ≤56°F



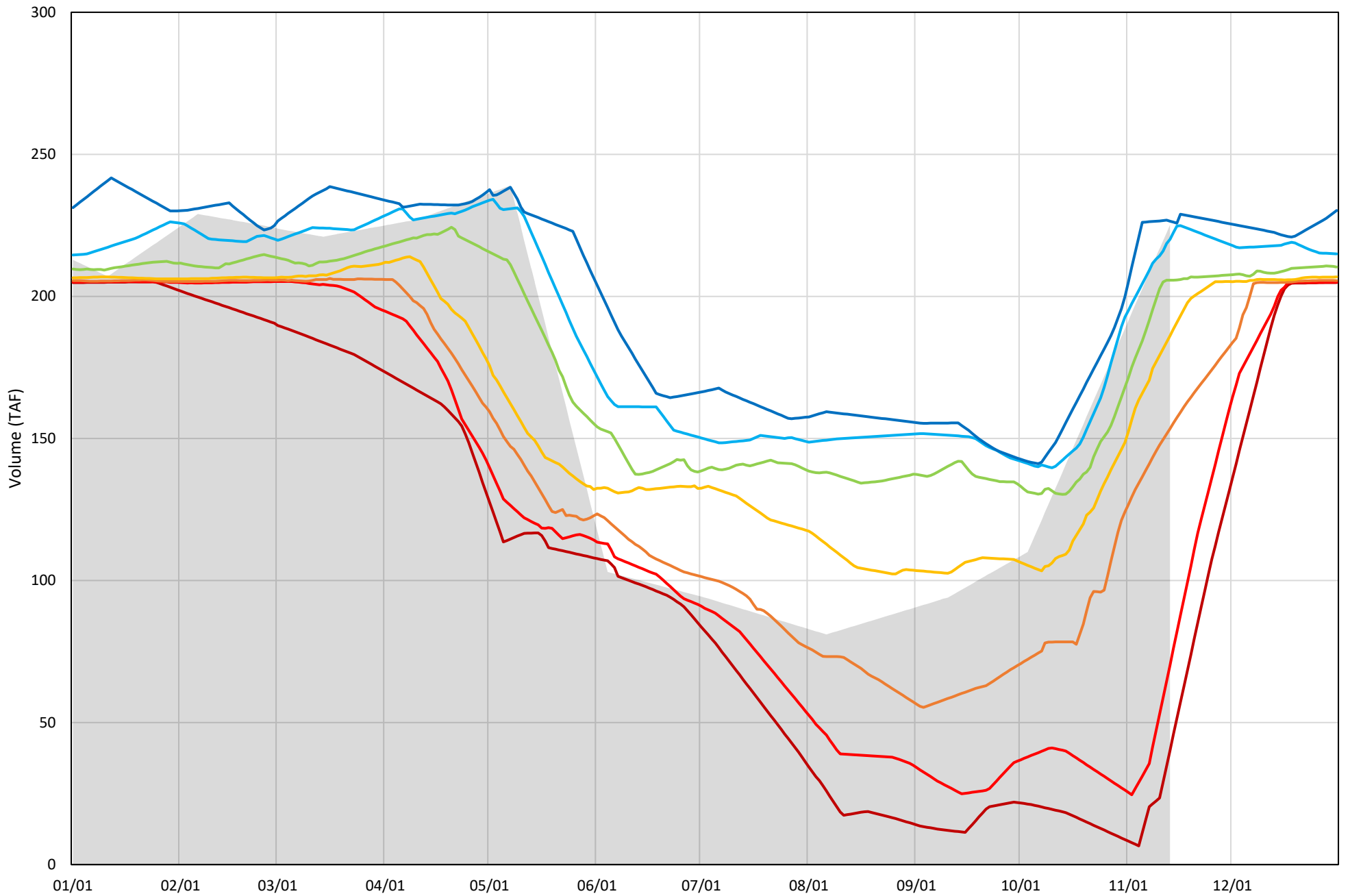
Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

2024 95 90 75 50 25 10 5



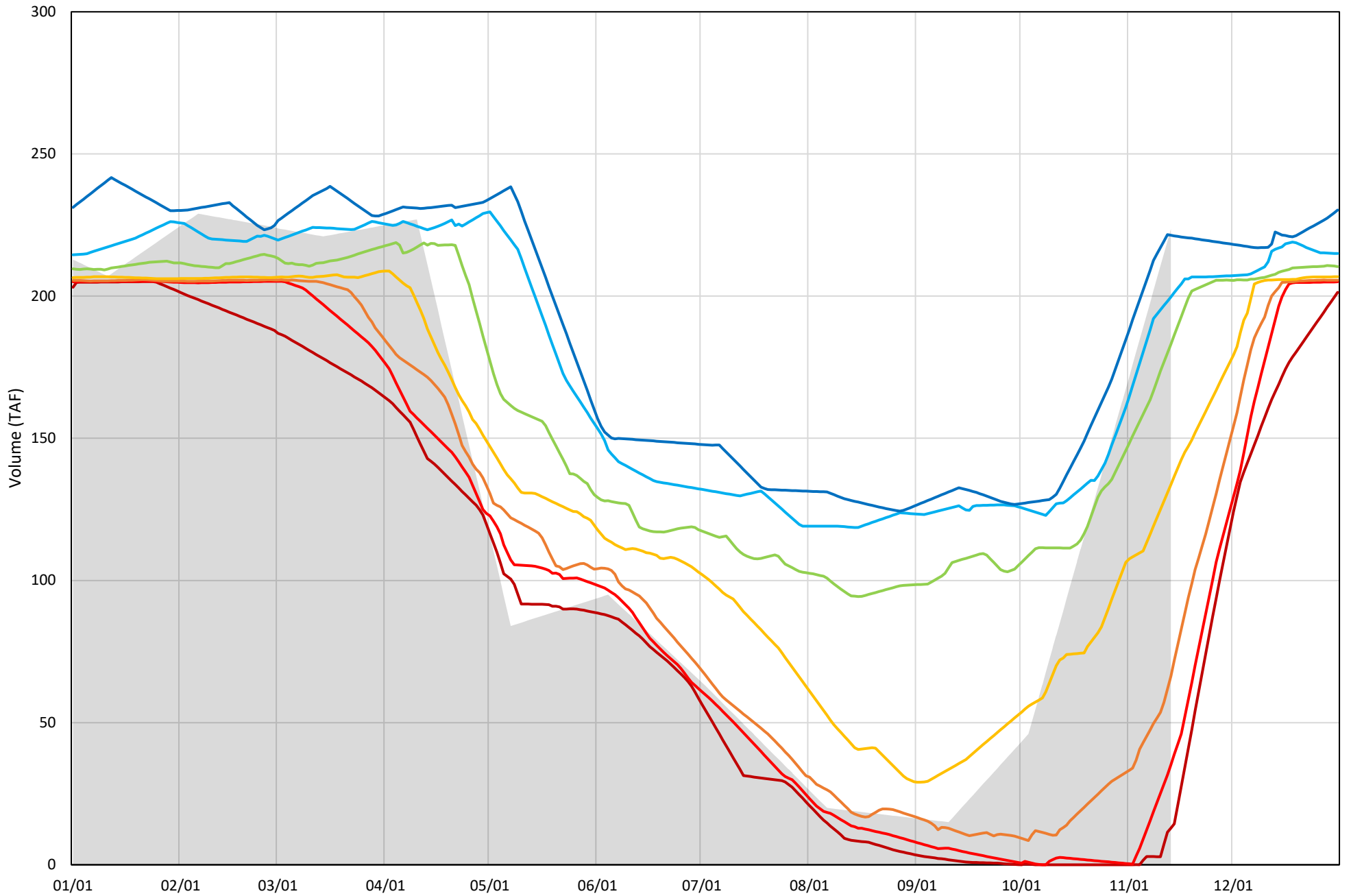
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2023)

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)

Nov-14 2024	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	-63.7	-65.9	-70.4	66.7	-28.2	-29.3	-31.5	29.6
2001	-33.5	-33.1	-33.4	33.4	-14.8	-14.7	-14.9	14.8
2002	-40.5	-42.0	-47.0	43.2	-17.9	-18.7	-21.0	19.2
2003	0.0	0.8	-99.2	33.4	0.0	0.4	-44.3	14.9
2004	0.5	1.4	3.0	1.6	0.2	0.6	1.3	0.7
2005	-19.8	-18.9	-164.5	67.7	-8.8	-8.4	-73.5	30.2
2006	-45.9	-46.0	-46.4	46.1	-20.3	-20.4	-20.8	20.5
2007	-20.6	-19.7	-135.1	58.5	-9.1	-8.8	-60.4	26.1
2008	-30.5	-30.3	-30.0	30.3	-13.5	-13.5	-13.4	13.5
2009	-49.4	-54.6	-80.7	61.5	-21.8	-24.2	-36.1	27.4
2010	-14.0	-128.8	-138.3	93.7	-6.2	-57.2	-61.8	41.7
2011	-20.3	-19.4	-17.9	19.2	-9.0	-8.6	-8.0	8.5
2012	-21.2	-127.7	-144.6	97.9	-9.4	-56.7	-64.7	43.6
2013	-1.6	-69.6	-74.5	48.6	-0.7	-30.9	-33.3	21.6
2014	-56.0	-72.5	-103.7	77.4	-24.8	-32.2	-46.4	34.4
2015	-21.2	-191.2	-206.1	139.5	-9.4	-84.9	-92.2	62.2
2016	-13.2	-143.7	-159.2	105.3	-5.8	-63.8	-71.2	46.9
2017	-16.6	-65.3	-69.6	50.5	-7.4	-29.0	-31.1	22.5
2018	-11.5	-11.5	-212.3	78.4	-5.1	-5.1	-94.9	35.0
2019	-21.3	-20.5	-151.7	64.5	-9.4	-9.1	-67.8	28.8
2020	-34.8	-36.0	-38.6	36.5	-15.4	-16.0	-17.2	16.2
2021	-17.4	-31.2	-35.7	28.1	-7.7	-13.9	-16.0	12.5
2022	-159.5	-166.1	-165.4	163.7	-70.6	-73.8	-74.0	72.8
2023	-8.0	-11.0	-170.8	63.2	-3.5	-4.9	-76.4	28.3
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Historical - Current

(Historical - Current) / Current