

Northern CVP Water Temperature Report

June - 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
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
06/01	52.7	50.0	53.8	54.0	55.4	56.6	60.3	62.8	64.0	56.2	53.0	58.4	60.7	3281	358	3764	74.0	70.8	72.8
06/02	54.1	50.5	53.6	53.4	54.8	56.1	60.1	63.3	?	65.2	57.0	53.4	59.4	2995	356	3773	76.5	73.5	76.5
06/03	52.4	49.8	53.6	53.9	54.8	55.7	59.4	62.4	64.5	56.5	53.5	58.6	60.6	3123	358	3796	73.0	70.0	73.6
06/04	51.4	!	-	53.7	54.1	54.8	55.4	58.0	60.5	62.4	56.0	53.0	56.5	3314	290	3959	67.0	64.9	65.7
06/05	51.5	!	-	53.7	52.7	54.0	54.9	57.4	58.9	?	60.5	56.6	53.1	3468	374	3954	66.0	63.2	65.8
06/06	51.6	49.5	53.7	52.6	54.0	55.1	58.4	60.7	61.6	57.6	52.7	58.6	59.4	3594	362	4017	72.5	70.7	71.6
06/07	51.6	49.3	53.9	52.2	53.6	54.8	58.8	61.9	63.4	57.7	53.1	58.7	60.7	3171	355	3989	77.0	71.9	74.4
06/08	51.9	?	50.0	53.9	52.3	53.7	55.0	59.1	62.3	64.1	58.3	53.7	60.7	3205	363	3959	80.5	75.6	75.4
06/09	50.2	49.0	53.9	52.3	53.8	55.1	59.4	62.8	?	64.7	58.0	53.9	60.4	3235	360	3945	83.5	79.4	83.1
06/10	51.6	49.1	54.1	52.5	54.3	55.7	59.9	63.2	?	65.3	58.9	54.5	61.9	3714	355	3949	84.5	81.3	85.3
06/11	52.1	49.5	54.3	52.4	54.0	55.7	60.6	64.3	?	66.0	58.7	54.9	62.7	3474	385	3947	83.5	81.3	82.8
06/12	51.0	49.8	55.5	53.0	54.3	55.3	59.2	63.1	65.7	58.1	?	55.4	61.6	3257	366	3968	72.5	70.7	74.0
06/13	51.9	48.1	55.0	53.6	54.6	55.6	58.9	61.0	?	62.5	57.2	55.6	59.6	2402	240	4032	69.5	67.3	68.7
06/14	50.2	!	-	54.1	53.5	54.9	56.0	59.3	61.5	?	62.8	57.6	55.5	4076	335	3963	76.0	72.0	73.7
06/15	49.9	48.8	55.3	51.9	53.9	55.5	59.7	62.4	63.9	57.9	?	54.7	61.0	3534	435	3948	80.0	75.4	78.3
06/16	50.2	49.7	54.5	52.0	53.5	54.6	59.1	62.3	?	64.5	57.7	54.4	59.9	3650	399	4071	76.0	73.5	75.4
06/17	49.7	48.4	55.6	51.8	53.0	53.8	57.5	60.4	?	62.4	56.6	54.7	58.2	2867	359	4049	66.0	63.1	62.4
06/18	49.6	48.3	54.5	51.9	53.3	54.3	57.4	59.8	61.7	56.9	54.8	58.6	60.7	2752	363	4034	65.5	64.3	65.6
06/19	50.2	48.8	55.5	51.7	53.3	54.5	58.3	61.0	62.6	56.7	54.7	59.4	61.8	3373	290	3963	72.5	69.6	71.8
06/20	50.6	48.9	55.1	51.7	53.2	54.5	58.5	61.1	63.0	56.5	54.6	60.7	63.8	3812	76	3883	80.0	75.5	77.5
06/21	50.5	49.7	54.9	52.0	53.7	55.1	59.0	61.8	?	63.6	56.6	54.8	61.0	3736	76	3849	88.5	82.1	84.8
06/22	49.5	48.8	54.8	52.2	53.9	55.5	59.6	62.8	64.9	57.0	54.5	62.0	65.8	2544	76	4255	87.0	80.6	84.8
06/23	50.6	49.1	54.6	52.4	54.0	55.5	59.8	63.3	65.7	57.8	54.7	62.5	66.8	4366	99	4259	84.5	80.2	81.4
06/24	49.7	49.7	55.7	51.8	53.7	55.4	60.0	63.5	65.9	58.5	55.4	62.9	67.2	3687	275	4239	85.5	81.6	82.5
06/25	49.2	48.7	54.9	52.3	53.7	55.1	59.2	62.9	65.8	57.3	55.8	63.4	67.8	3671	357	4320	86.5	82.5	83.3
06/26	49.9	?	49.6	56.0	53.8	55.3	59.6	62.9	65.3	57.5	56.0	63.5	68.1	3727	355	4298	85.0	81.0	81.4
06/27	49.9	49.0	54.9	51.9	53.6	55.0	59.2	62.7	?	65.4	57.6	56.0	63.8	3568	356	4510	84.5	79.8	80.6
06/28	49.9	48.7	55.6	51.8	53.4	54.8	58.9	62.3	64.9	58.6	55.9	63.3	67.5	4235	76	4508	84.0	80.1	80.5
06/29	49.7	48.4	55.0	51.6	53.3	54.6	58.5	61.8	64.5	58.9	56.0	62.9	67.2	4282	76	4463	82.0	77.5	78.5
06/30	49.7	48.5	55.3	51.4	53.1	54.3	58.3	61.5	64.0	58.7	56.2	63.3	67.6	3329	433	4488	78.0	74.1	74.1
-																			
Jun	50.8	49.2	54.6	52.4	53.9	55.2	59.1	62.0	64.0	57.5	54.6	60.7	63.5	3448	299	4072	78.1	74.4	76.2
														Total CFS	103442	8958	122152		
														Total AF	205173	17768	242284		

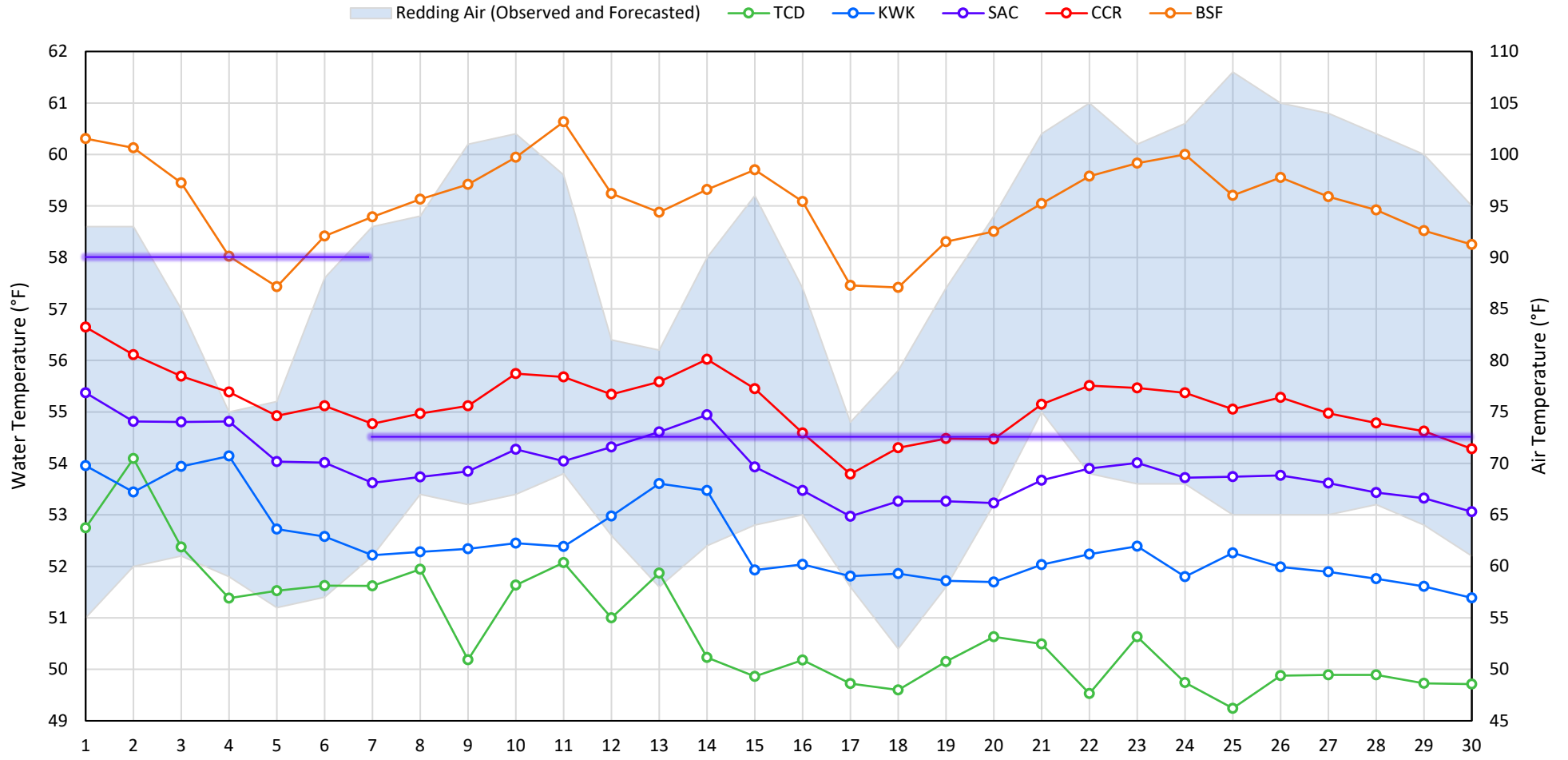
Legend

- ? = 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 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

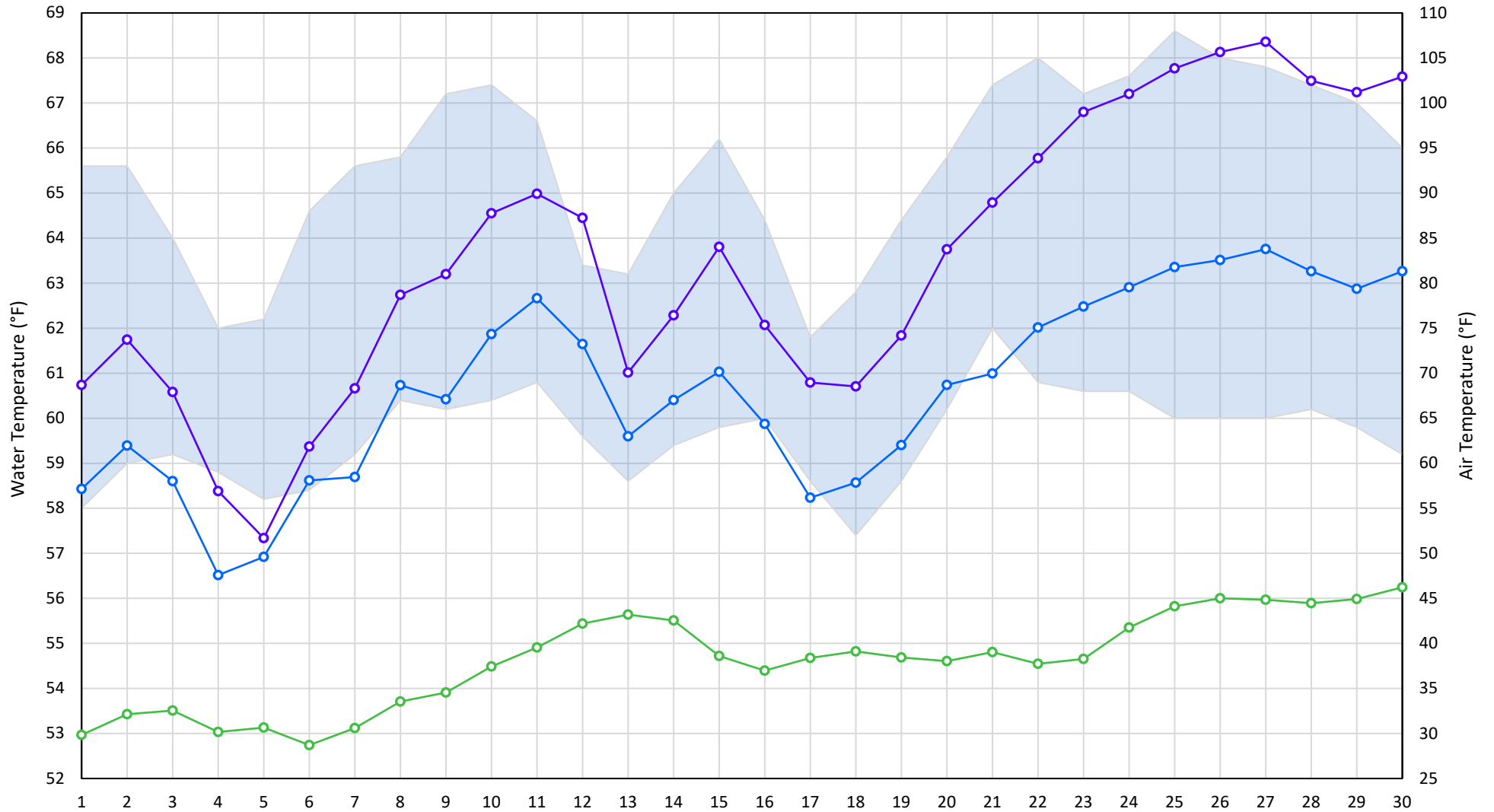
Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	SAC	55	06/15/2021	05/02/2022
Sacramento	SAC	58	05/02/2022	06/07/2022
Sacramento	SAC	54.5	06/07/2022	TBD

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

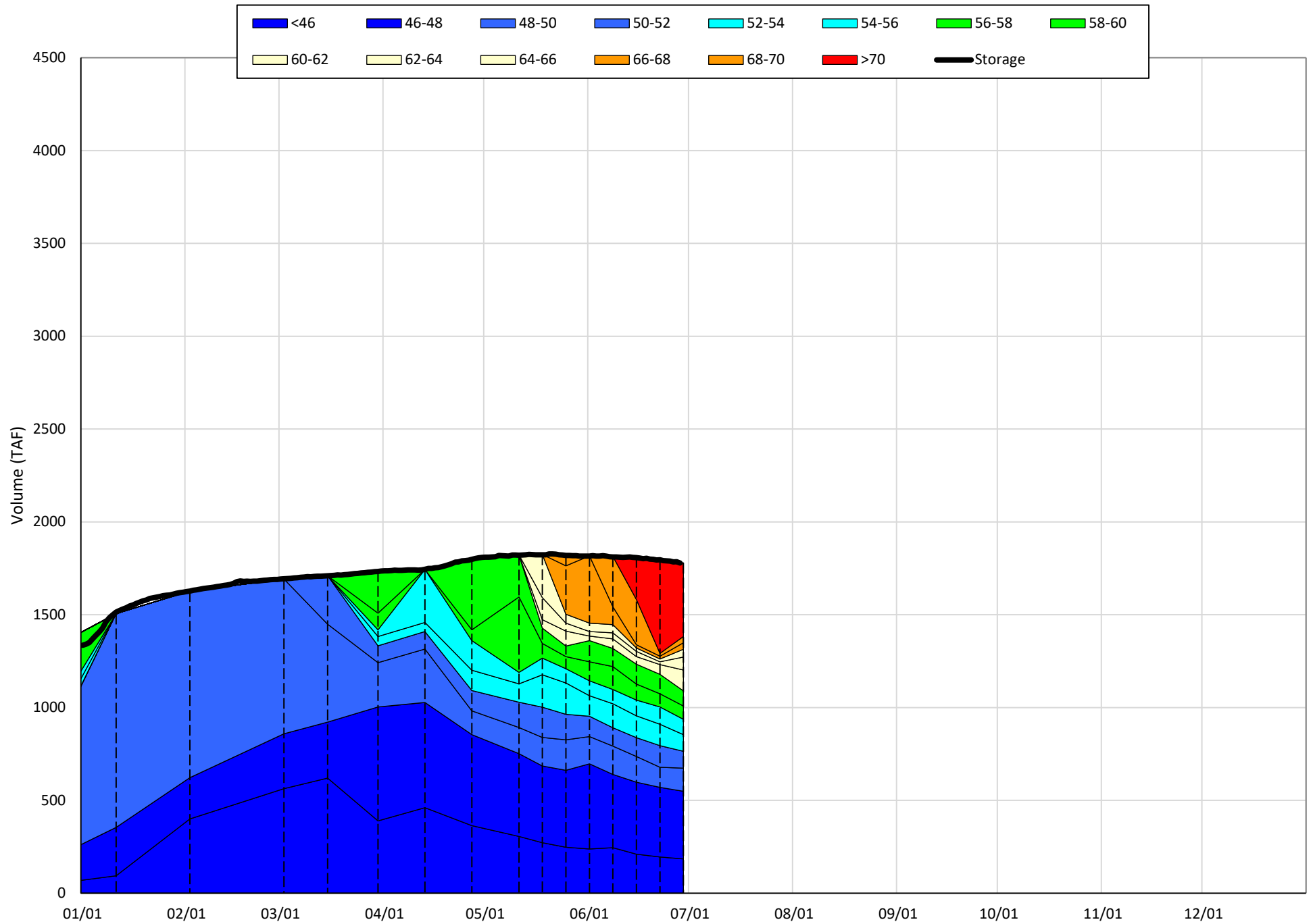
¹ Distances are approximate

Shasta Lake Isothermobaths & Cold Water Pool Statistics

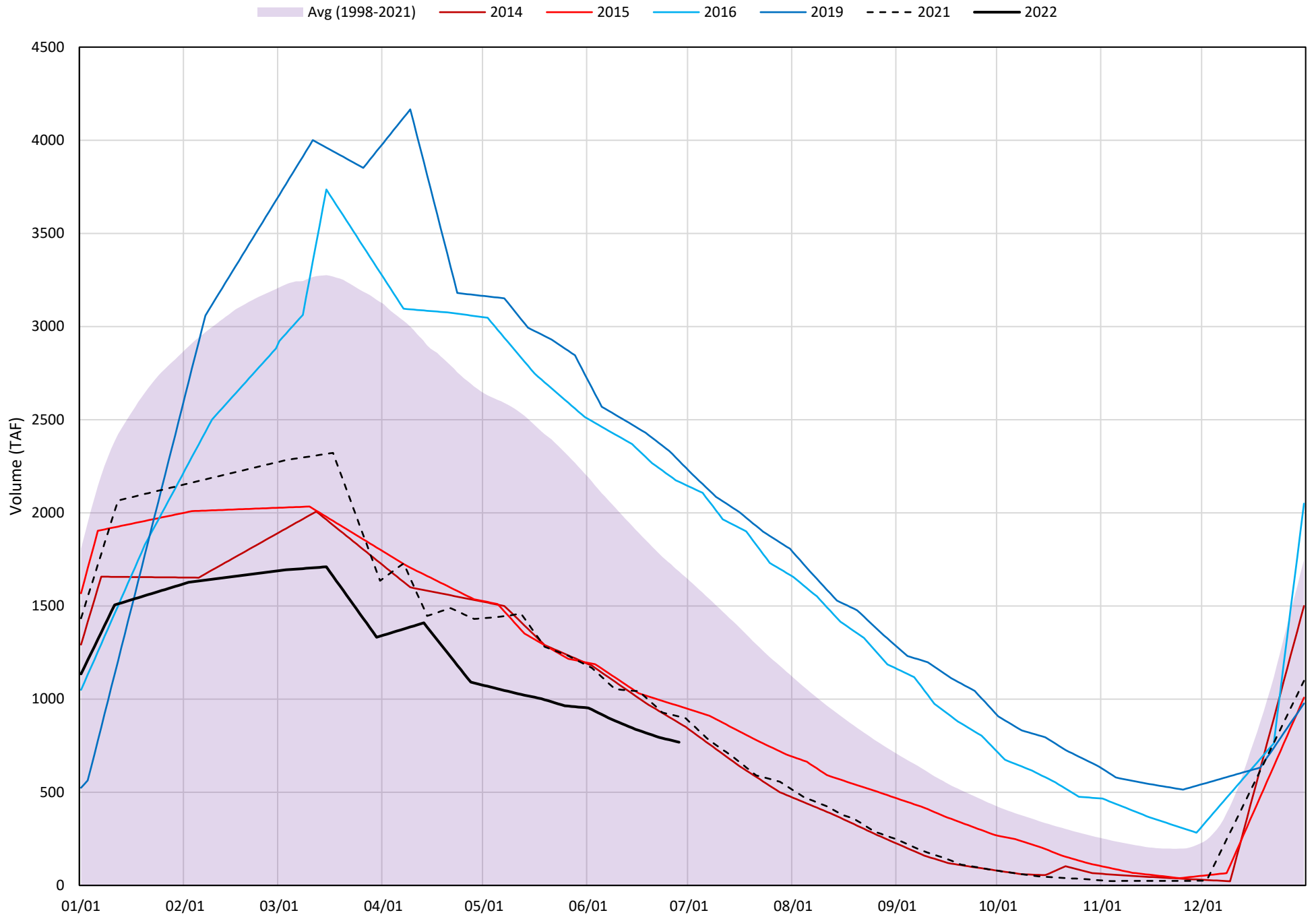
2022

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

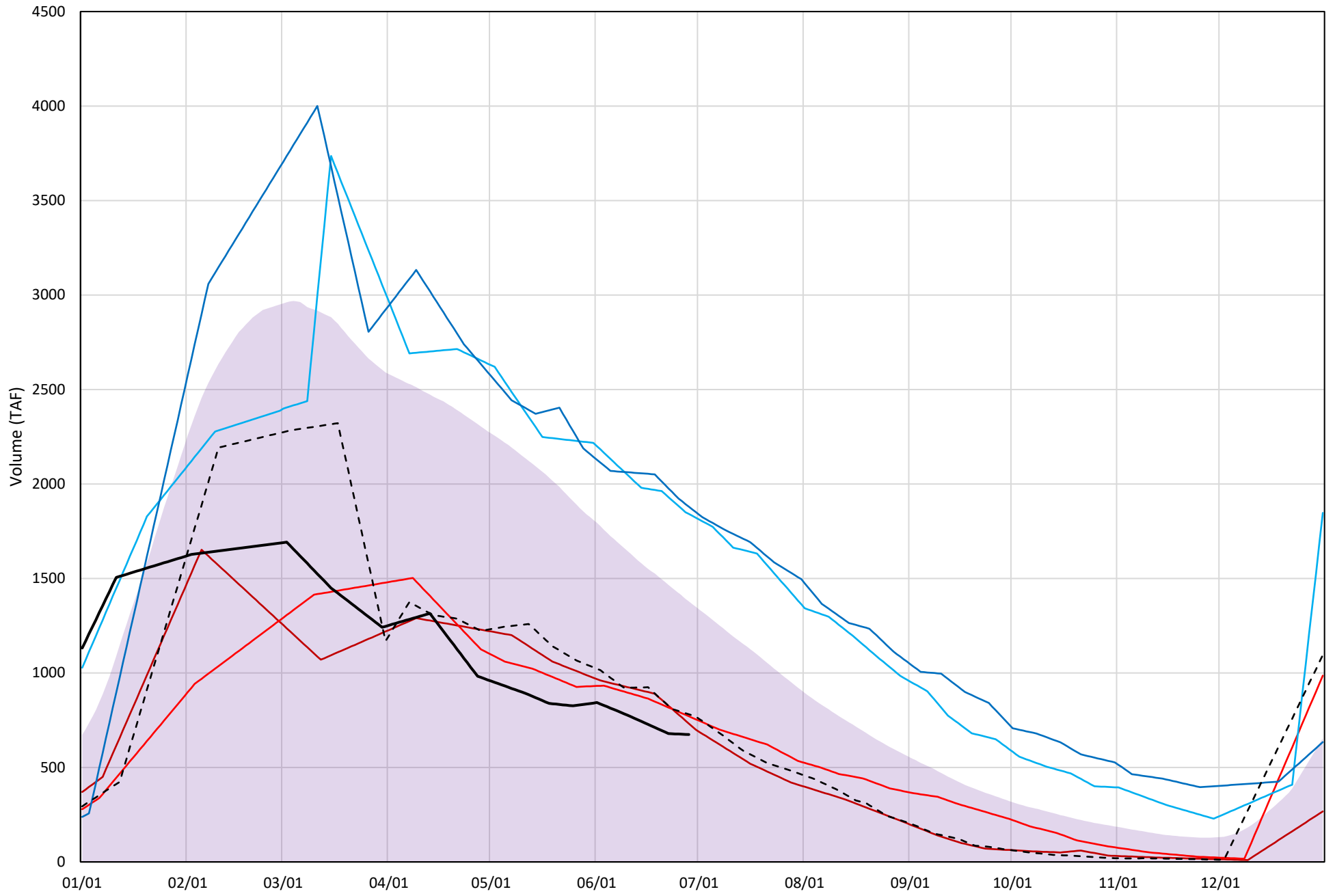


Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$



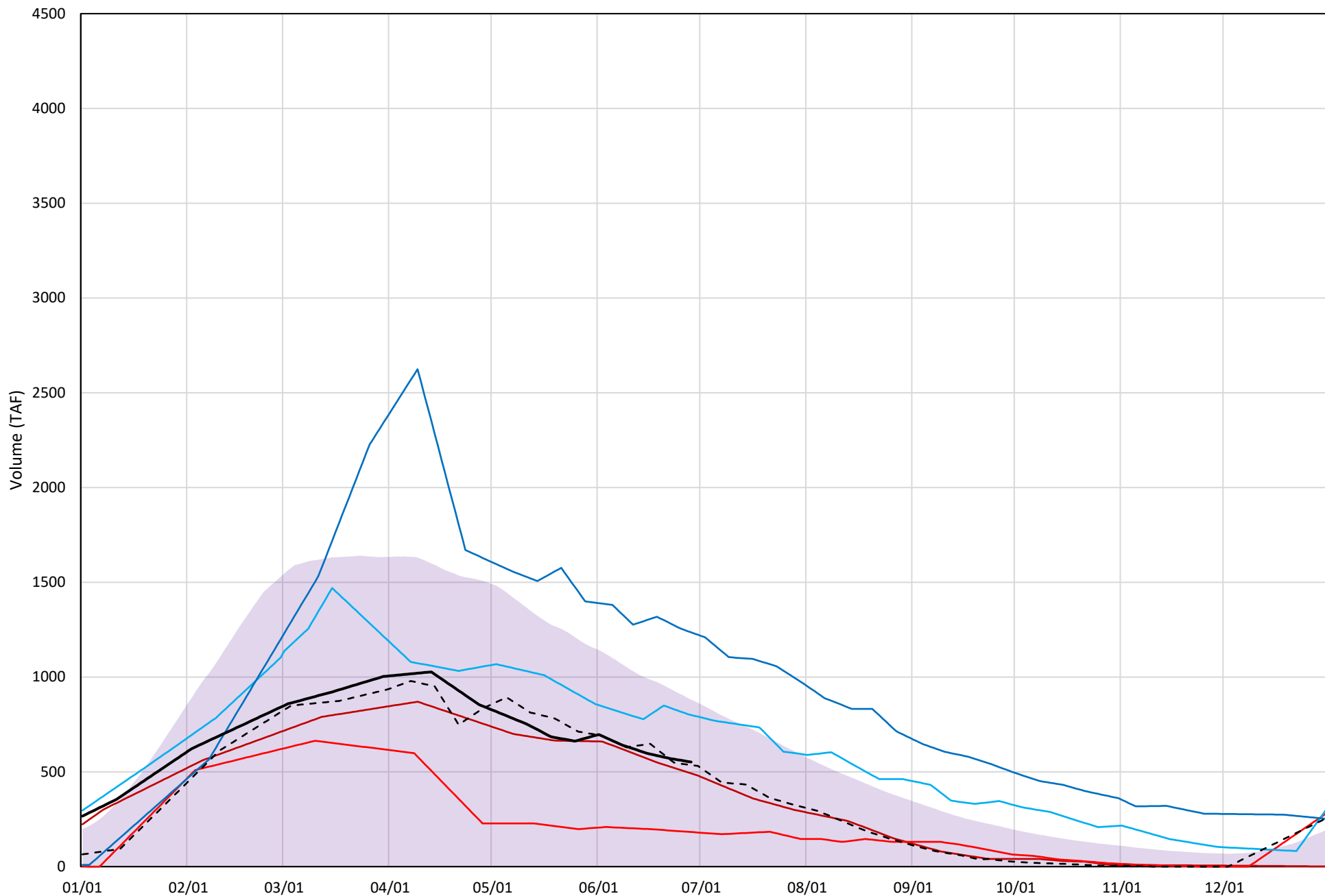
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$

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



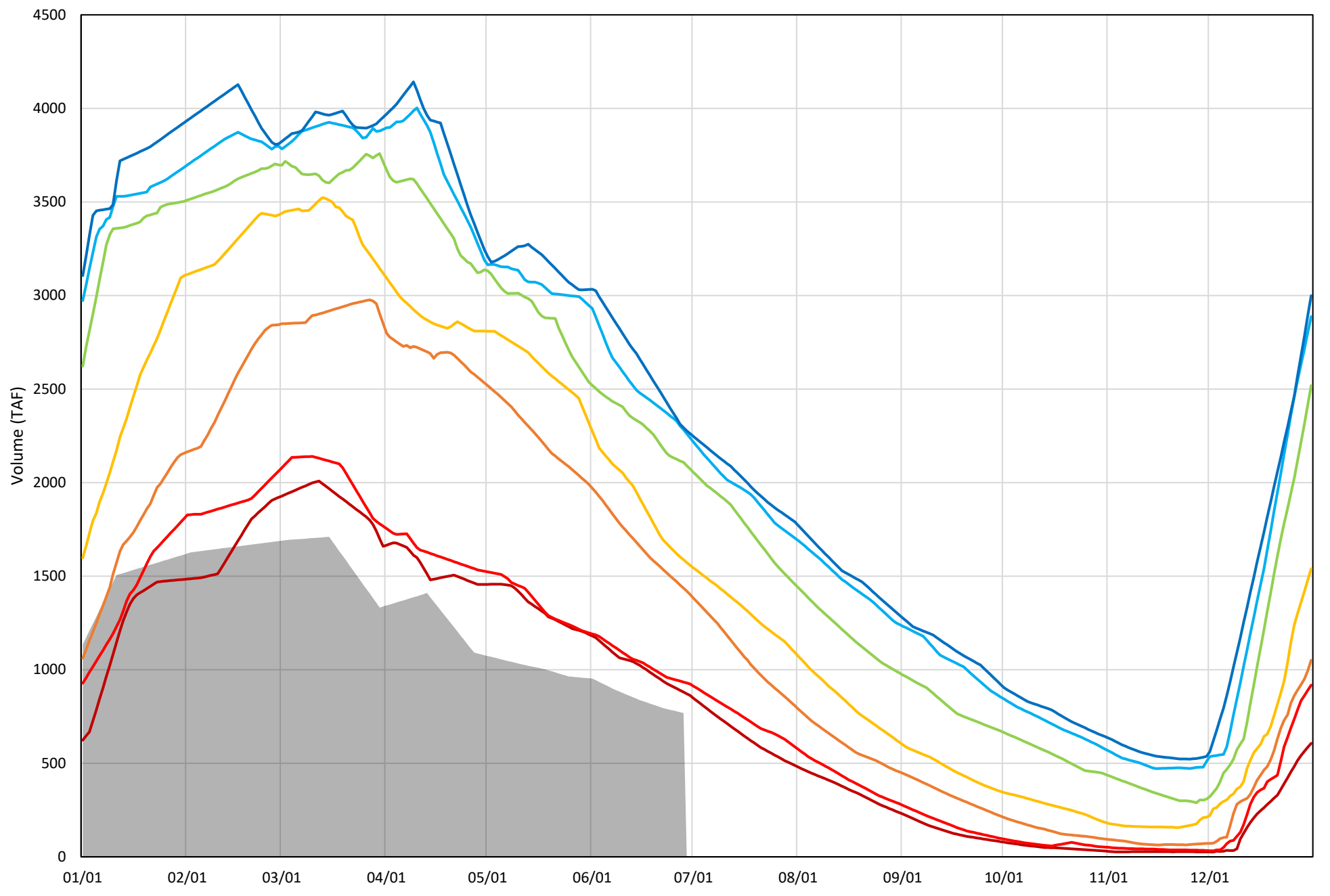
Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

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



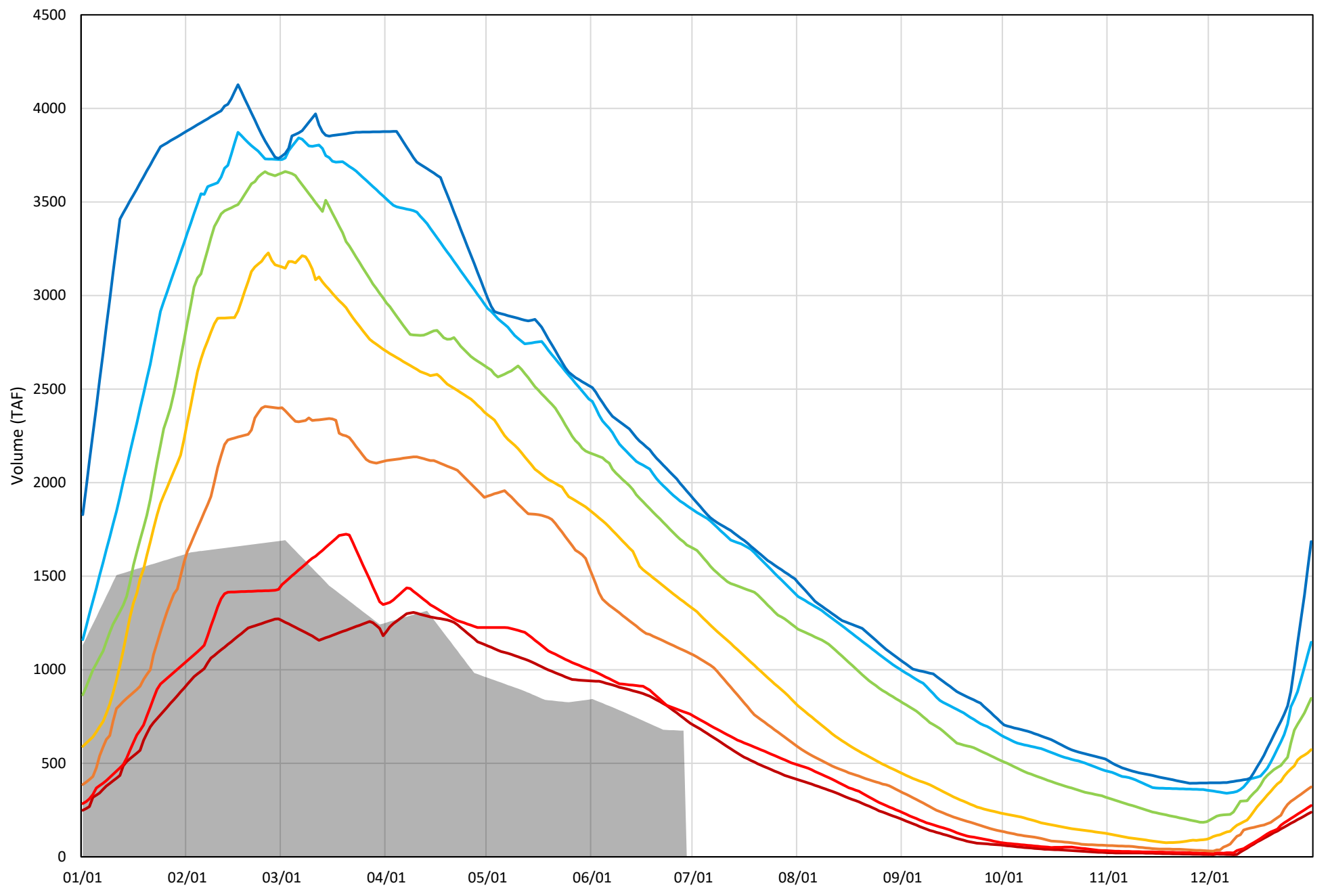
Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances (1998-2021)

2022 95 90 75 50 25 10 5



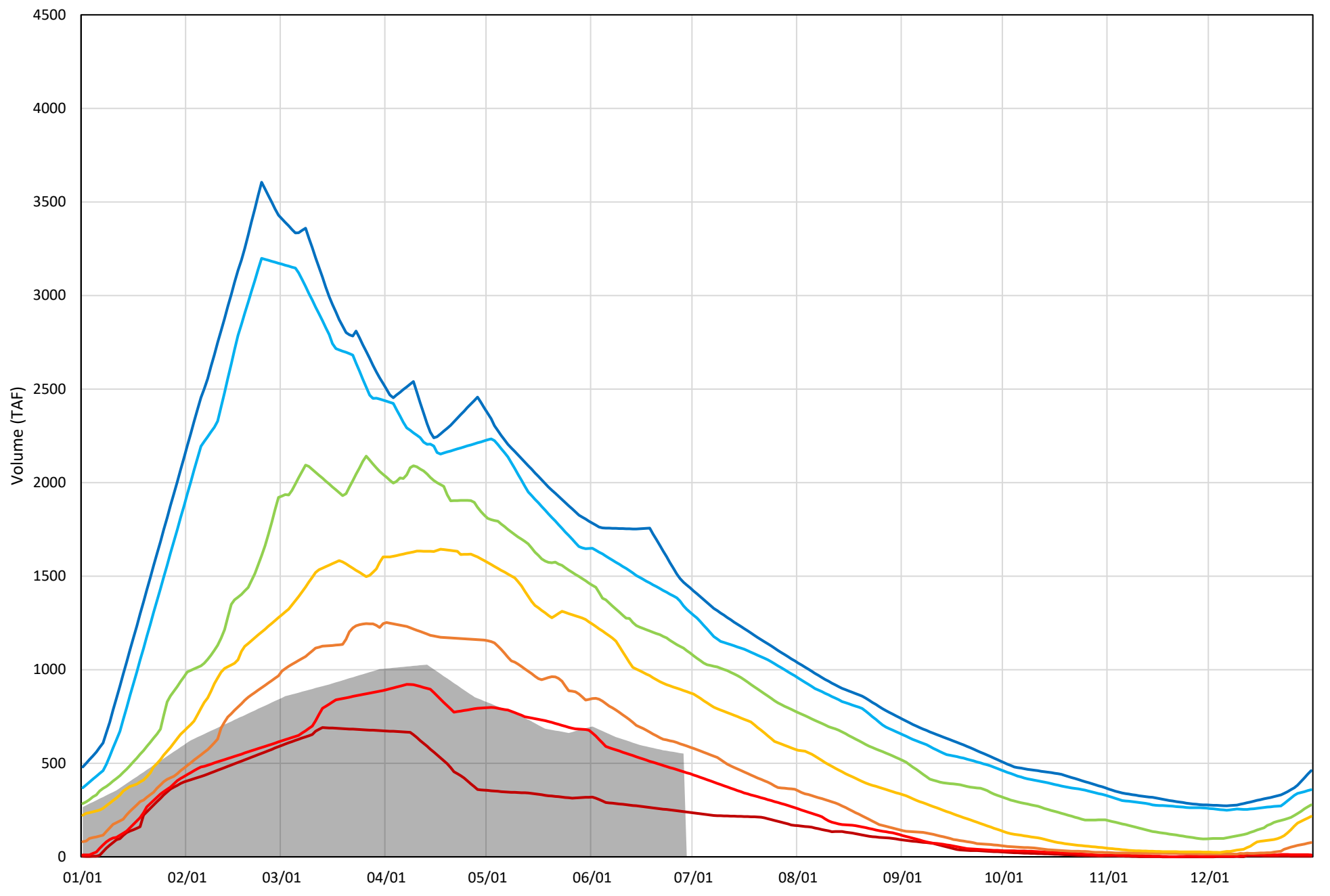
Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances (1998-2021)

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)

Jun-29 2022	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	1104	671	148	641	144	99	27	90
1999	1231	1066	888	1062	160	158	161	160
2000	796	510	24	443	104	76	4	61
2001	775	709	572	685	101	105	104	103
2002	1073	933	573	860	140	138	104	127
2003	836	302	-133	424	109	45	-24	59
2004	638	477	299	471	83	71	54	69
2005	769	524	43	445	100	78	8	62
2006	1238	968	514	907	161	144	93	133
2007	792	722	521	678	103	107	94	102
2008	353	343	316	337	46	51	57	51
2009	511	414	358	428	67	61	65	64
2010	1403	1015	510	976	183	151	92	142
2011	1527	1225	926	1226	199	182	168	183
2012	1519	1327	691	1179	198	197	125	173
2013	759	659	435	618	99	98	79	92
2014	103	57	-60	74	13	9	-11	11
2015	194	96	-369	220	25	14	-67	35
2016	1398	1167	248	938	182	173	45	133
2017	1374	994	541	970	179	147	98	141
2018	1144	860	137	714	149	128	25	100
2019	1510	1206	684	1133	196	179	124	166
2020	803	555	56	471	104	82	10	66
2021	137	107	-16	87	18	16	-3	12
2022	0	0	0	0	0	0	0	0

Historic - Current

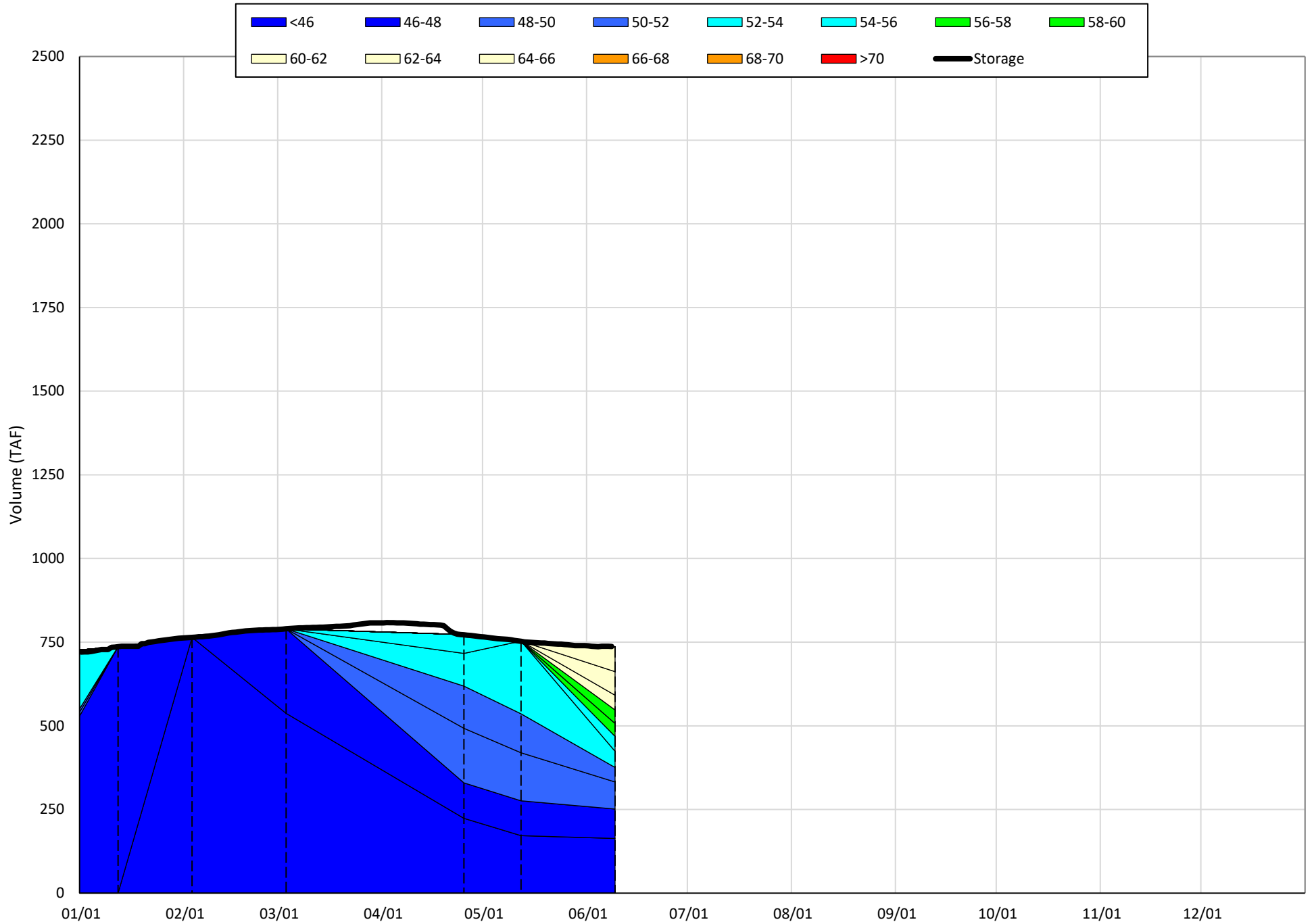
(Historic - Current) / Current

Trinity Lake Isothermobaths & Cold Water Pool Statistics

2022

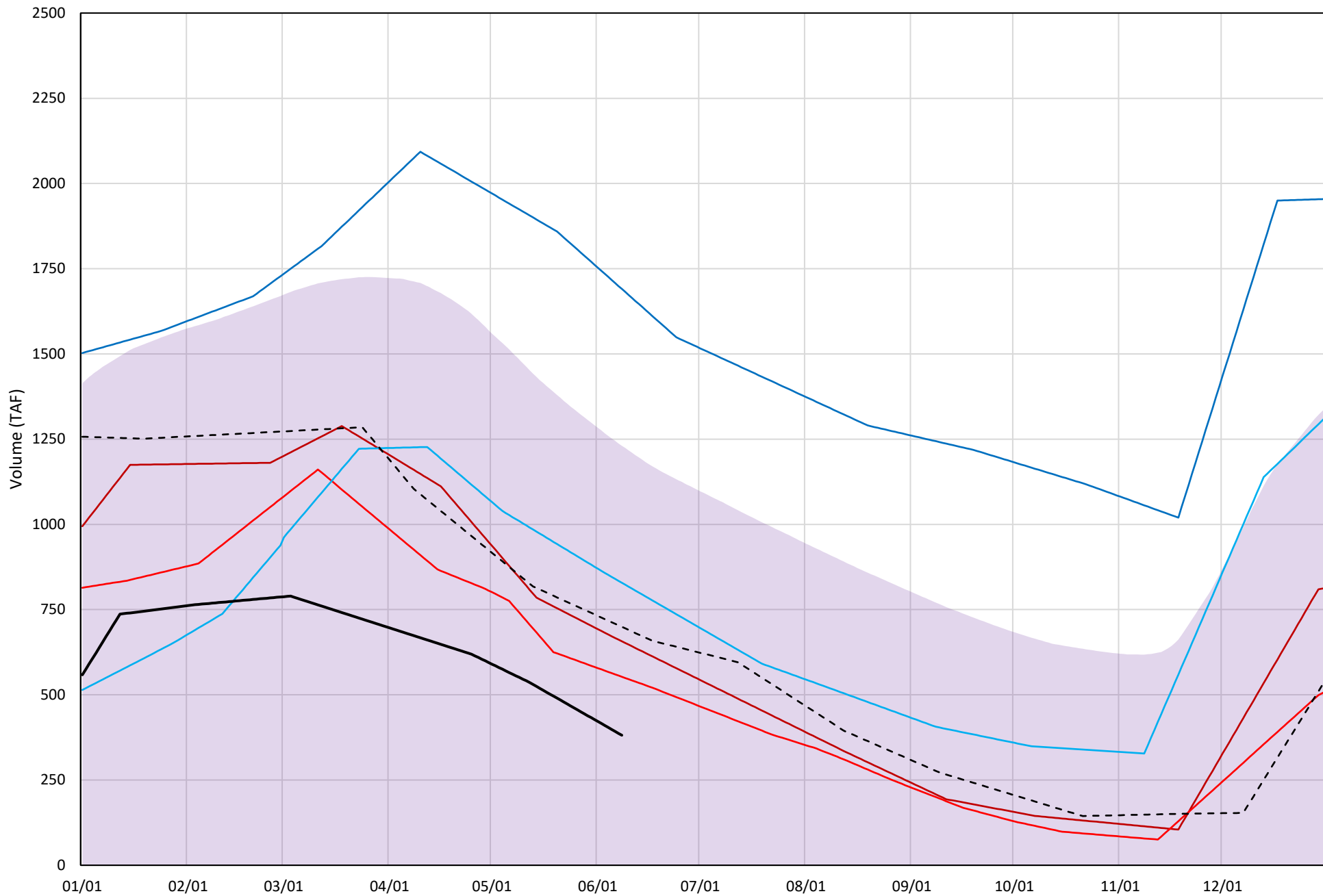
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq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



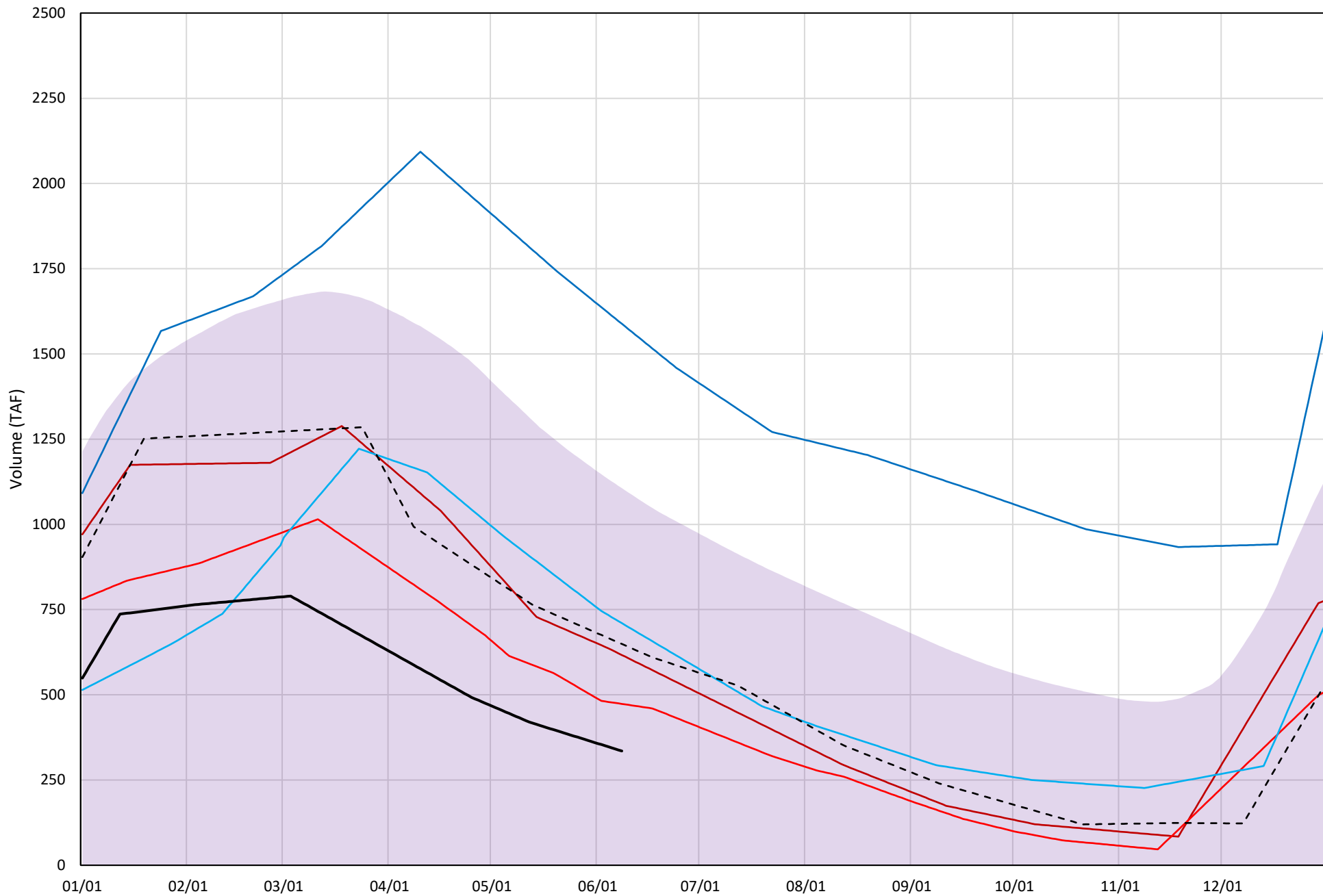
Trinity Lake Cold Water Pool Volume ≤52°F

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



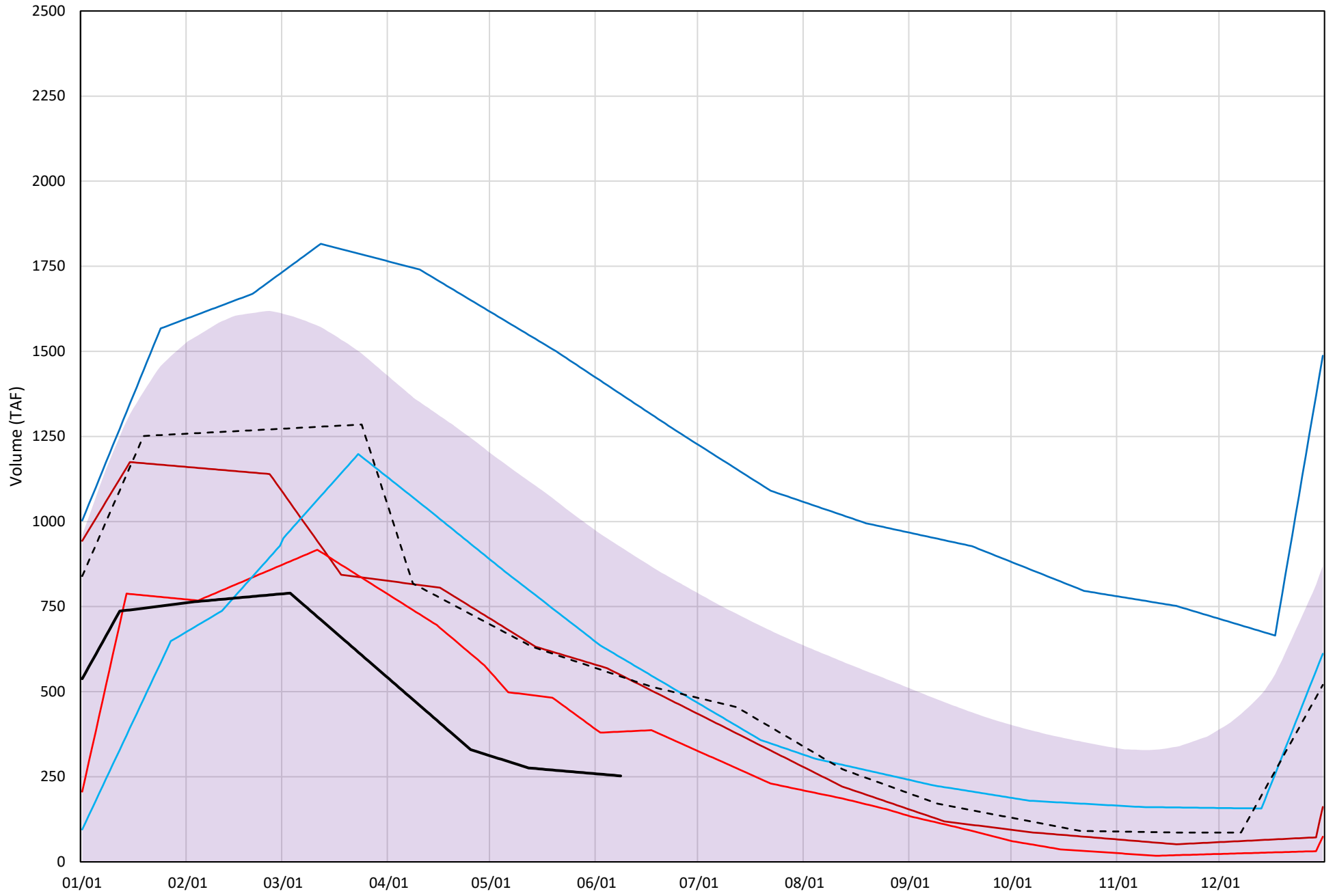
Trinity Lake Cold Water Pool Volume ≤50°F

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

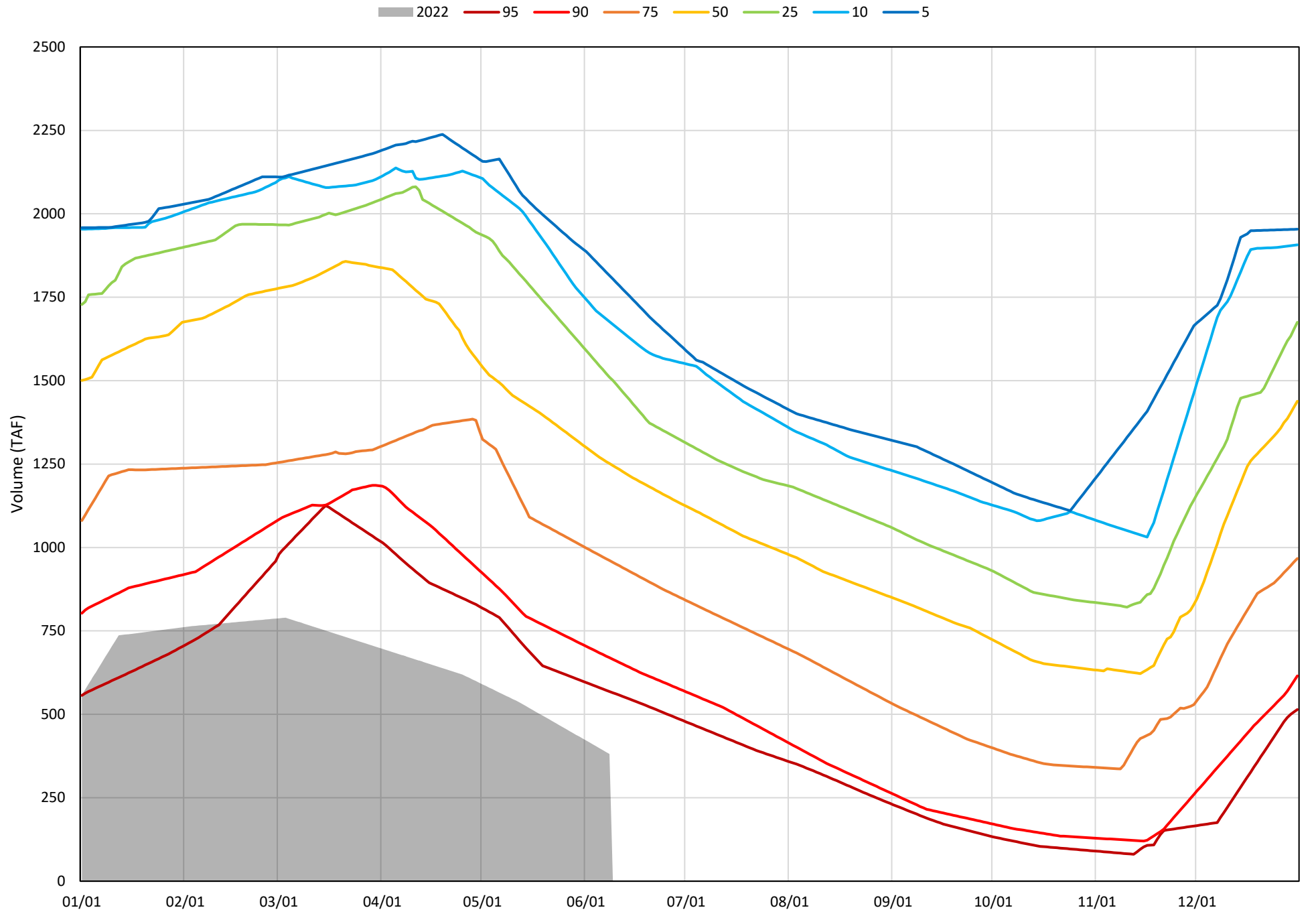


Trinity Lake Cold Water Pool Volume ≤48°F

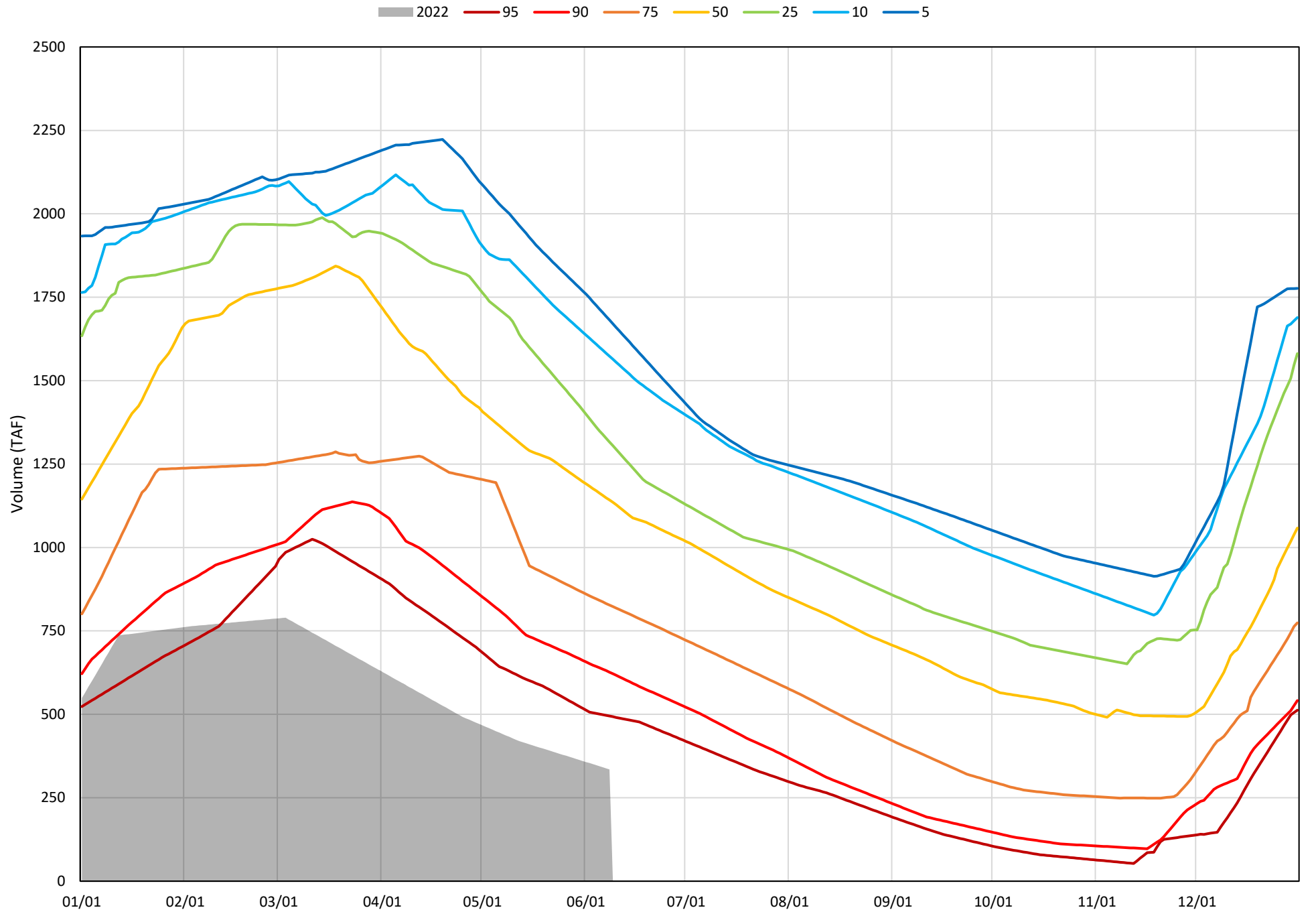
Avg (2000-2021) 2014 2015 2016 2019 2021 2022



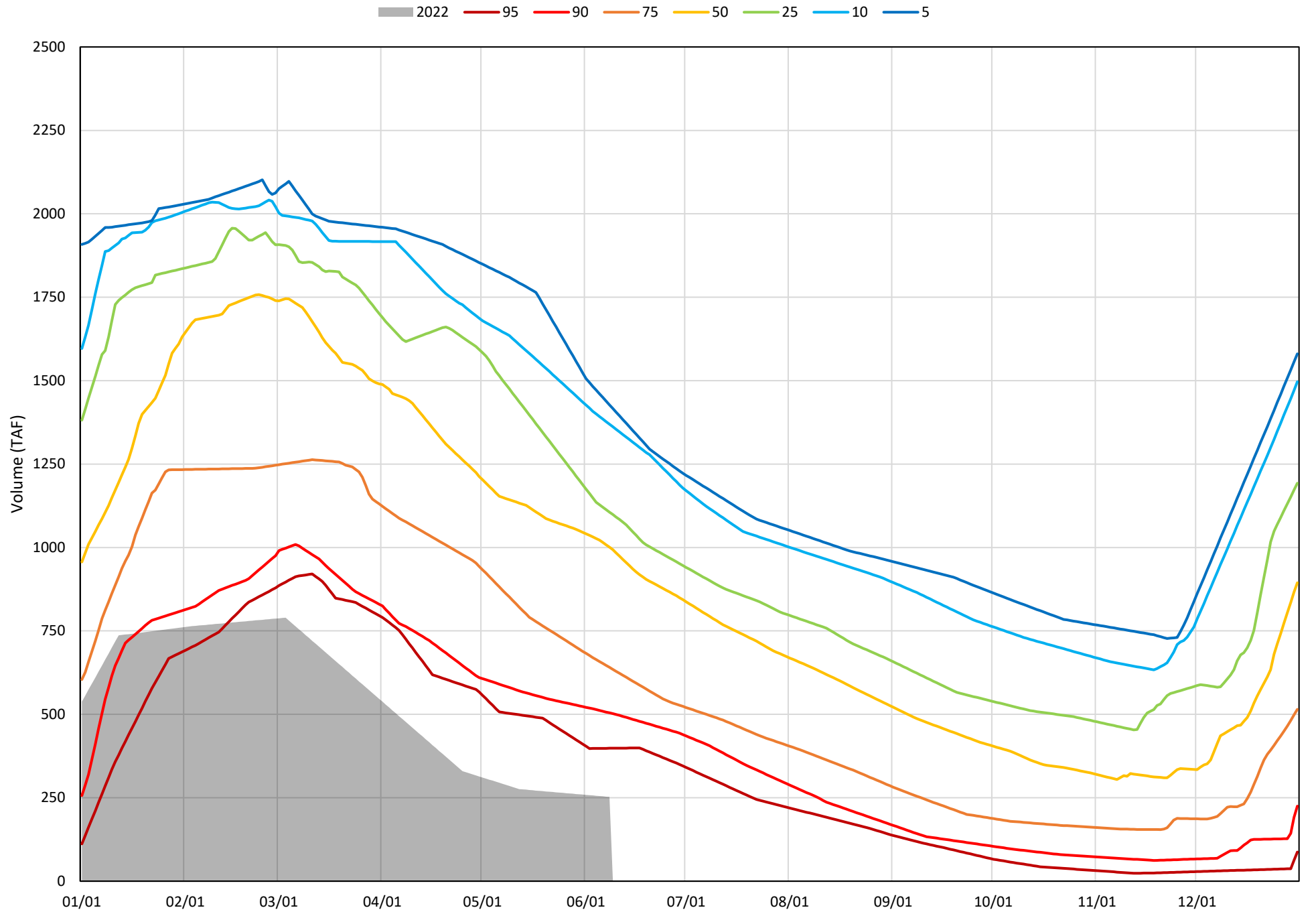
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2021)



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)

Jun-09 2022	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	1008	911	824	914	264	272	326	288
2001	910	816	749	825	239	243	297	259
2002	838	798	748	795	220	238	296	251
2003	1263	1012	846	1041	331	302	335	323
2004	1008	907	752	889	264	271	298	278
2005	1005	820	531	785	263	245	210	239
2006	1455	1363	1184	1334	382	407	469	419
2007	841	776	763	793	221	231	302	251
2008	624	532	402	519	163	159	159	160
2009	405	315	235	318	106	94	93	98
2010	741	640	455	612	194	191	180	188
2011	1216	1159	1047	1141	319	346	415	360
2012	1227	1202	1105	1178	322	359	438	373
2013	781	737	636	718	205	220	252	226
2014	276	282	296	285	72	84	117	91
2015	172	138	130	147	45	41	52	46
2016	447	375	348	390	117	112	138	122
2017	1100	971	875	982	288	290	347	308
2018	897	874	808	860	235	261	320	272
2019	1309	1253	1122	1228	343	374	444	387
2020	844	772	646	754	221	230	256	236
2021	318	314	292	308	83	94	116	98
2022	0	0	0	0	0	0	0	0

Historic - Current

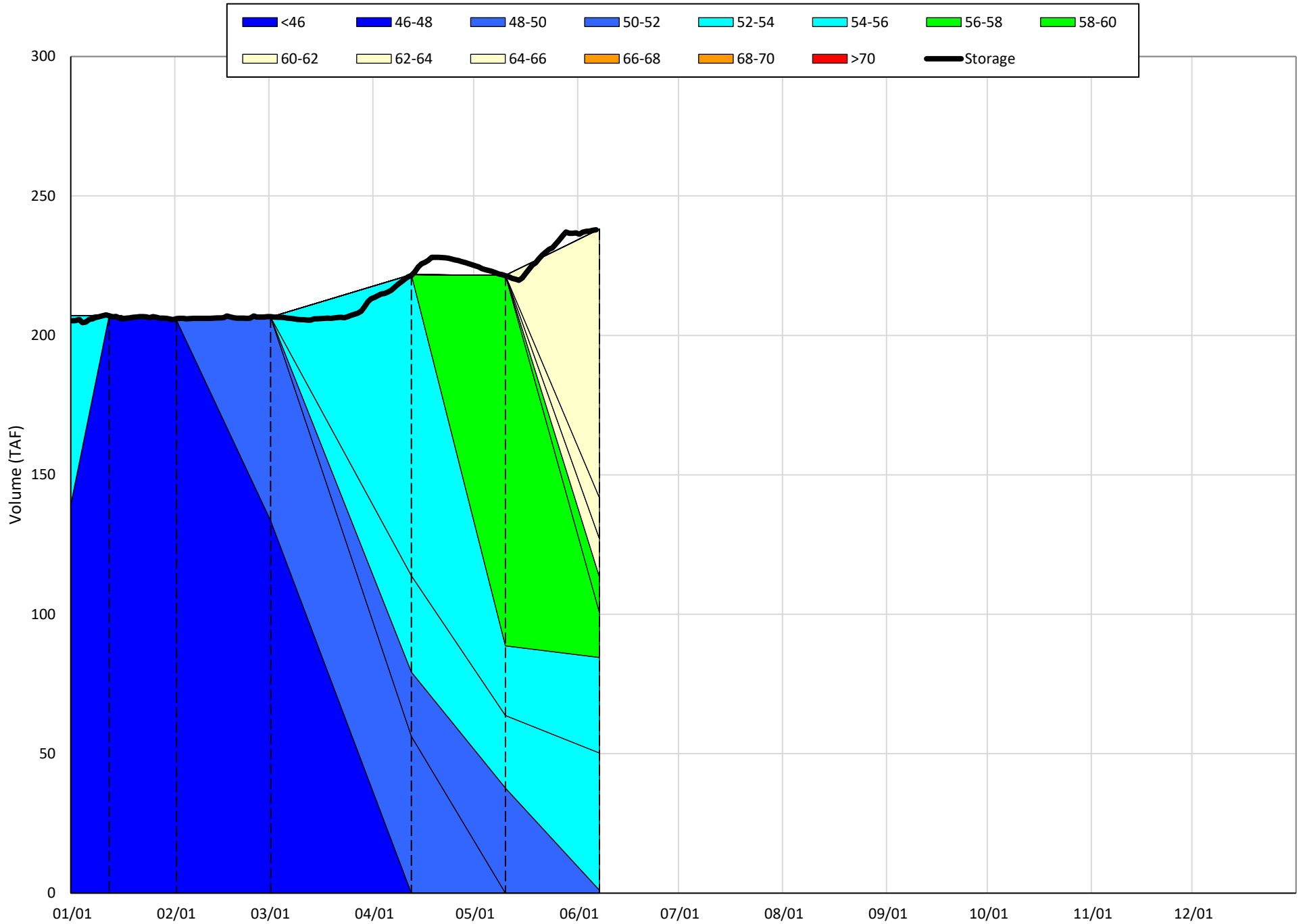
(Historic - Current) / Current

Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

2022

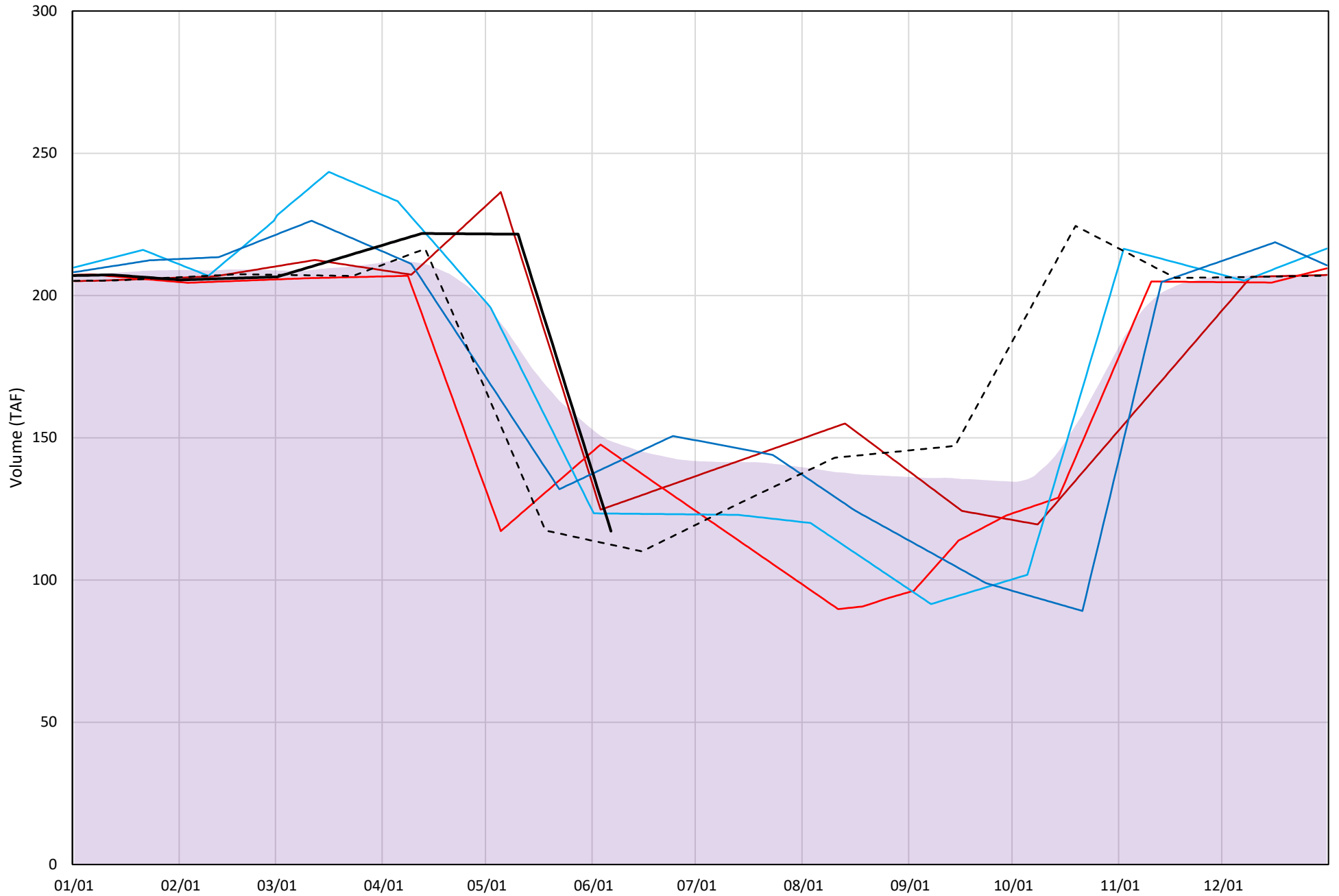
Page	Description
24	- Whiskeytown Lake Isothermobaths Plot
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26	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$
27	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$
28	- Whiskeytown Lake Cold Water Pool Volume $\leq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



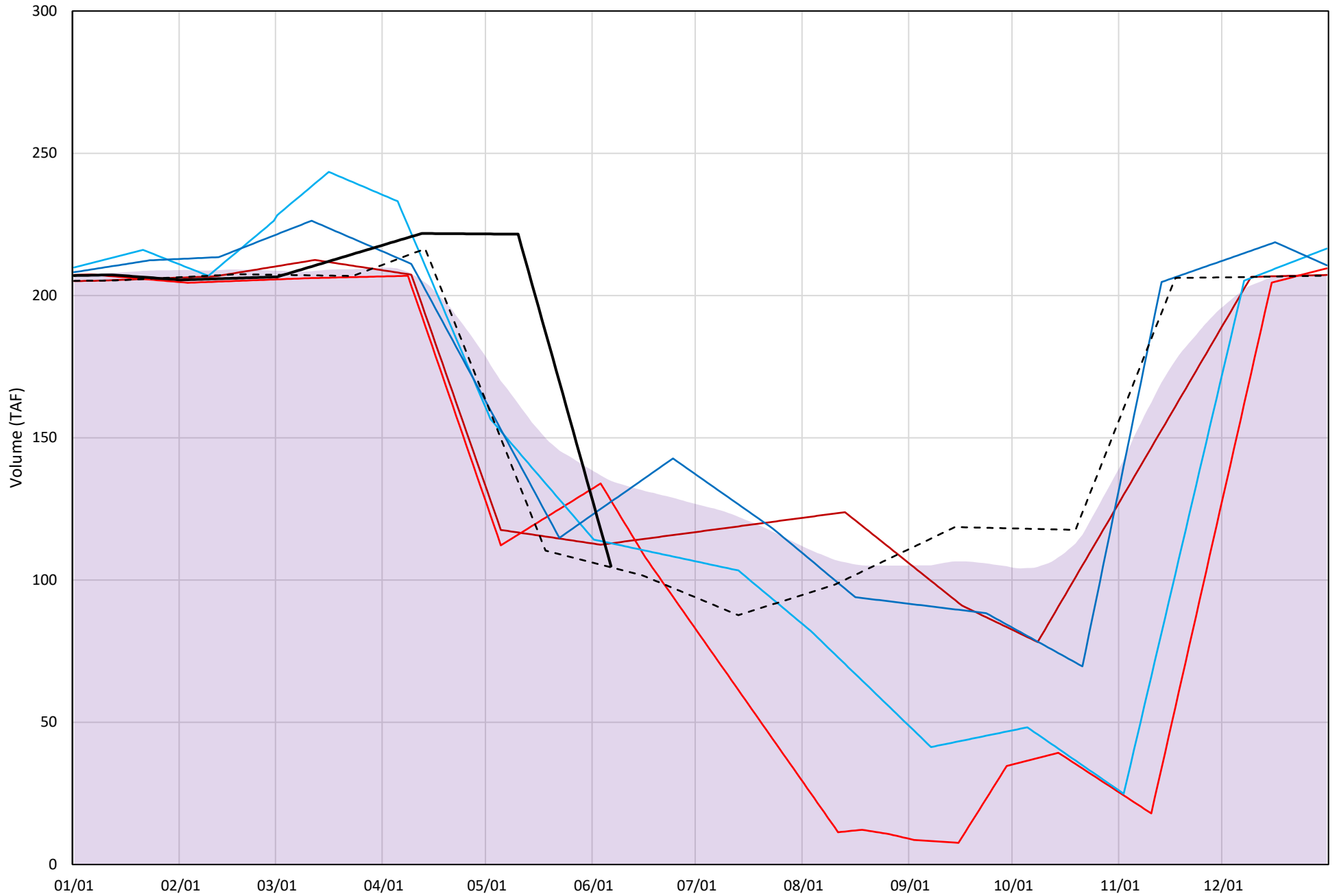
Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$

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



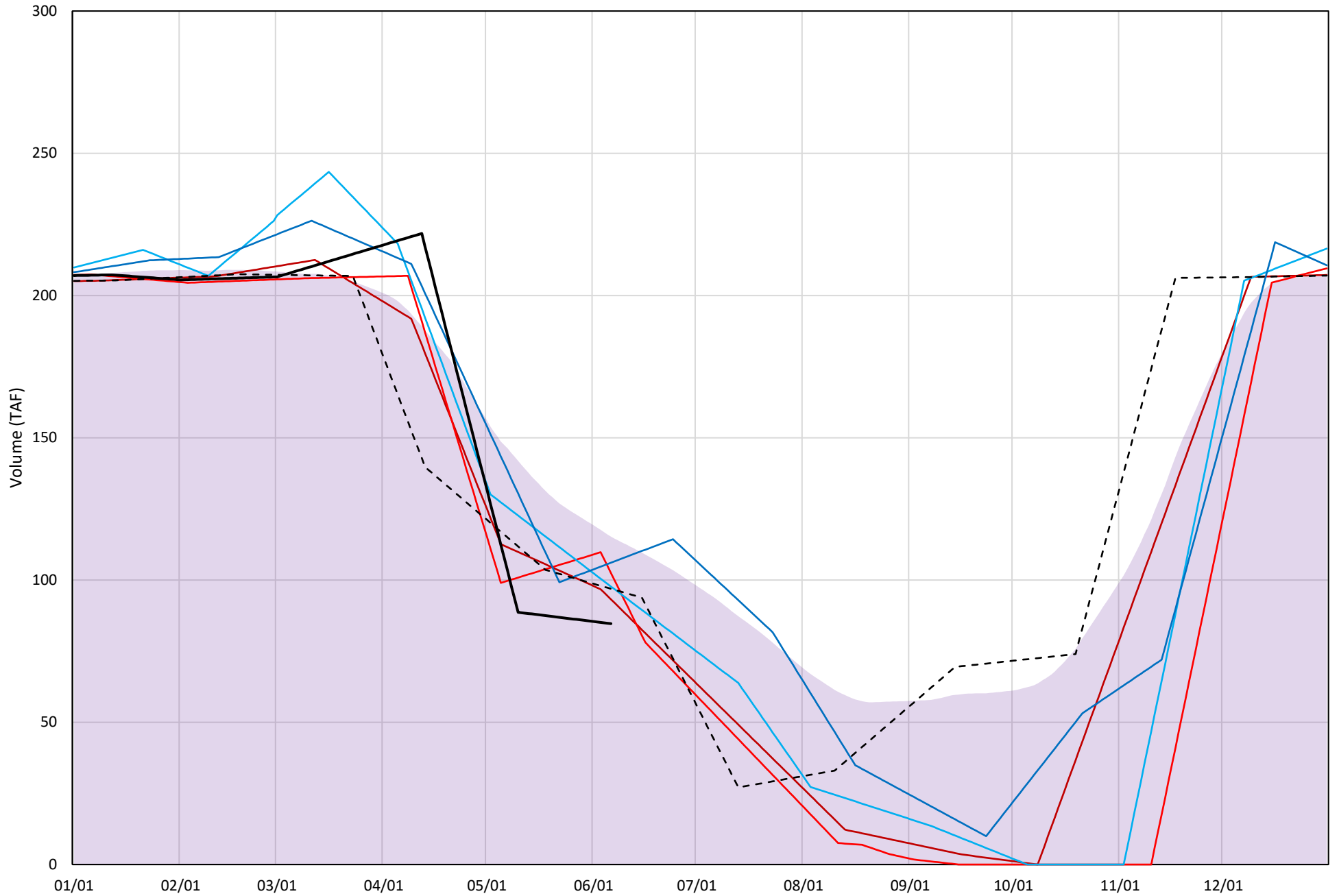
Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

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



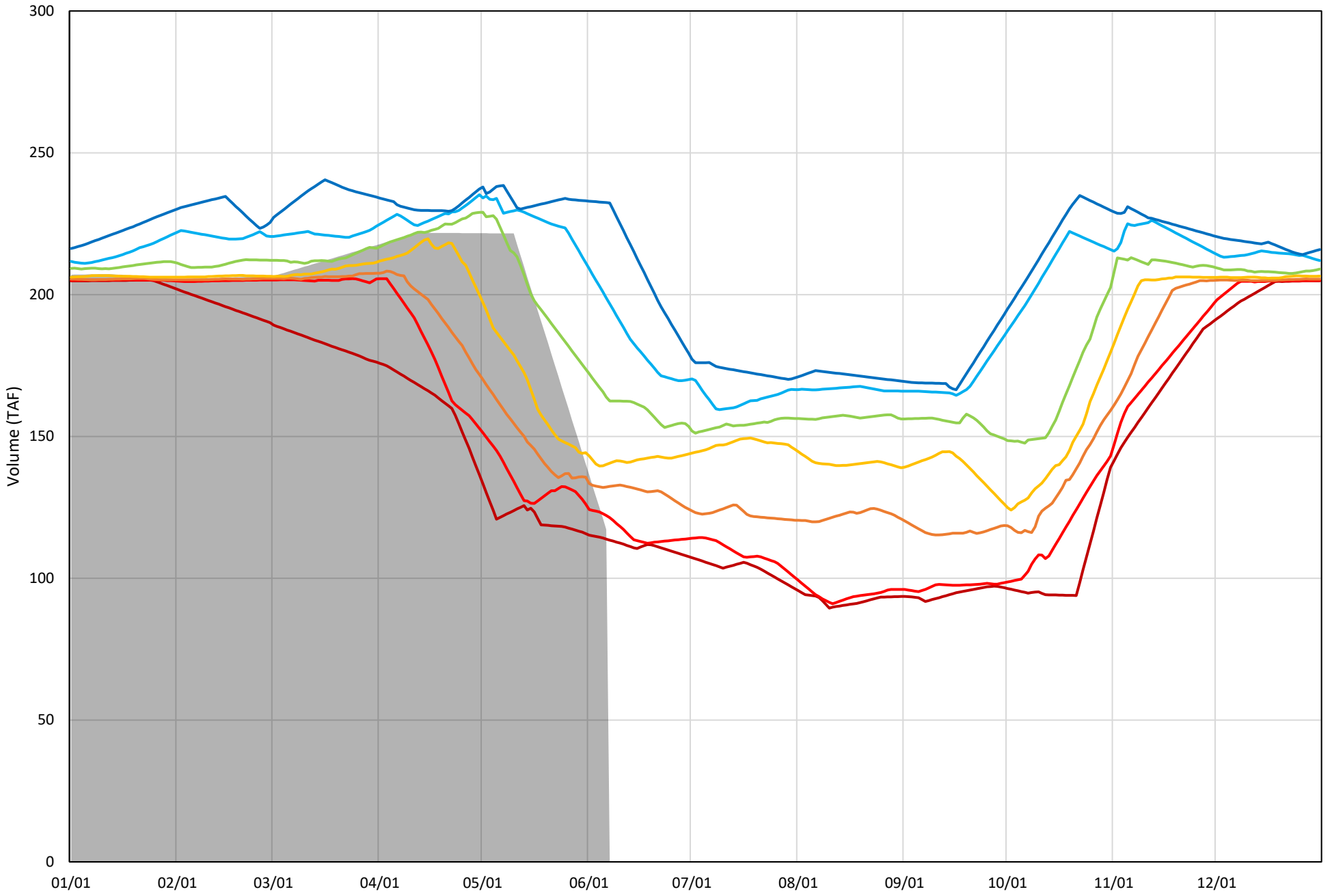
Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$

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

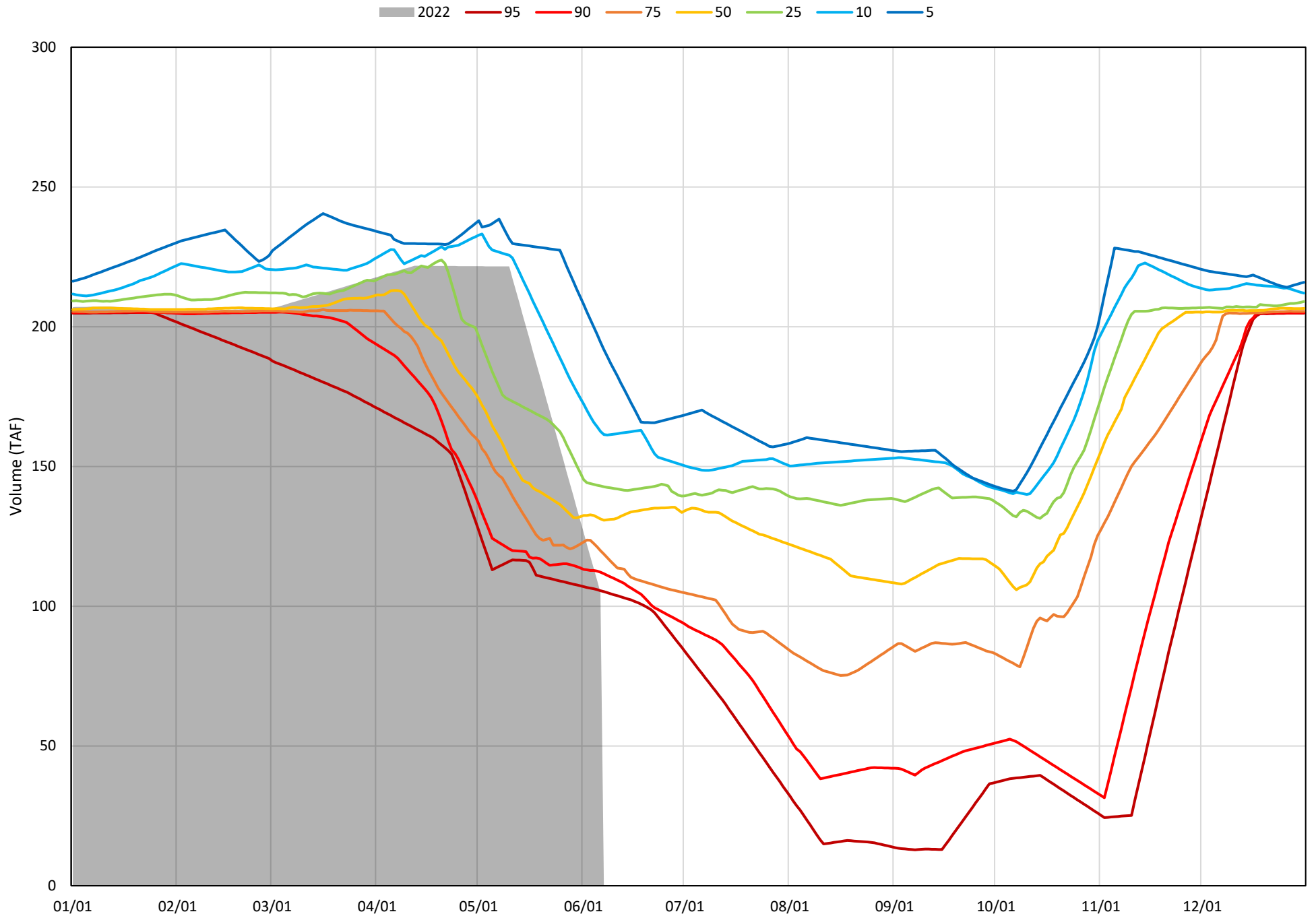


Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances (2000-2021)

2022 95 90 75 50 25 10 5

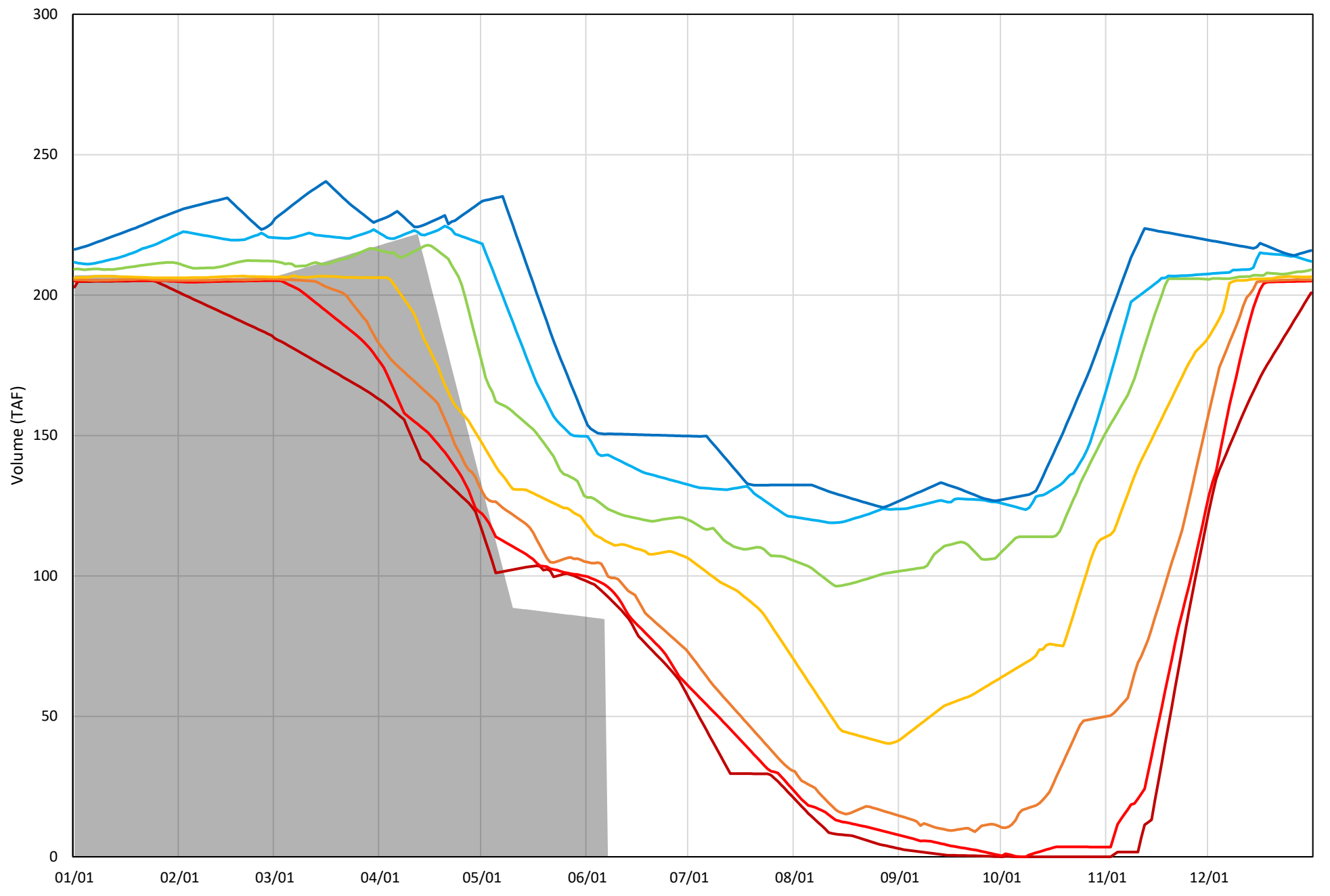


Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances (2000-2021)



Whiskeytown Lake Cold Water Pool Volume ≤56°F - Percent Exceedances (2000-2021)

2022 95 90 75 50 25 10 5



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

Jun-07 2022	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	62.4	25.2	25.7	37.8	53.3	24.0	30.3	35.9
2001	17.1	20.2	25.7	21.0	14.6	19.3	30.3	21.4
2002	31.7	28.5	35.5	31.9	27.1	27.2	41.9	32.0
2003	53.5	53.3	54.5	53.8	45.7	50.8	64.4	53.6
2004	26.7	33.9	46.7	35.8	22.8	32.4	55.2	36.8
2005	6.8	15.6	22.0	14.8	5.8	14.9	26.0	15.6
2006	47.0	55.5	66.9	56.5	40.1	52.9	79.0	57.3
2007	19.6	29.6	38.1	29.1	16.7	28.2	45.0	30.0
2008	22.6	30.1	32.5	28.4	19.3	28.7	38.4	28.8
2009	20.9	13.5	12.4	15.6	17.8	12.8	14.7	15.1
2010	89.8	95.1	30.2	71.7	76.7	90.7	35.7	67.7
2011	119.7	58.7	17.4	65.3	102.2	56.0	20.6	59.6
2012	19.5	25.1	31.8	25.5	16.6	23.9	37.6	26.1
2013	25.2	29.0	44.2	32.8	21.5	27.7	52.2	33.8
2014	8.8	8.0	8.5	8.5	7.5	7.6	10.1	8.4
2015	27.9	23.1	17.8	22.9	23.8	22.0	21.0	22.3
2016	6.2	8.0	13.0	9.1	5.3	7.7	15.4	9.5
2017	46.6	50.8	59.9	52.4	39.7	48.4	70.8	53.0
2018	20.5	27.5	38.7	28.9	17.5	26.2	45.7	29.8
2019	23.3	22.6	21.4	22.4	19.8	21.6	25.3	22.2
2020	4.5	7.0	17.9	9.8	3.8	6.6	21.1	10.5
2021	-4.8	-0.4	12.3	5.8	-4.1	-0.4	14.5	6.3
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Historic - Current

(Historic - Current) / Current