

# Northern CVP Water Temperature Report

## December - 2021

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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 <sup>1</sup>	SHD	SPP <sup>1</sup>	KWK	SAC <sup>2</sup>	CCR	BSF	JLF	BND	RDB	IGO	LWS	DGC	NFH	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB			
Nov	57.4	56.8	-	56.8	56.8	56.7	56.2	55.7	57.1	55.6	53.7	53.1	50.1	49.7	3033	292	3542	55.3	52.0	54.0			
12/01	55.5	54.5	# -	54.7	54.8	55.1	54.7	54.2	54.3	53.9	52.3	51.1	47.7	47.8	3577	74	3304	↑ 63.5	54.3	57.9			
12/02	55.1	54.2	# -	54.5	54.5	54.6	54.2	53.9	54.2	53.9	51.8	? 51.1	47.8	47.4	2746	74	3295	57.0	49.6	53.3			
12/03	54.7	54.1	# -	54.4	54.4	54.3	53.8	53.4	53.5	53.3	51.9	51.1	47.7	47.4	2761	229	3303	52.5	47.9	50.7			
12/04	54.5	54.0	# -	54.3	54.2	54.1	53.5	53.0	53.2	52.9	52.1	51.1	47.5	47.2	2937	82	3298	52.5	47.1	50.7			
12/05	54.5	53.8	# -	54.1	54.0	54.0	53.6	53.3	53.5	53.0	52.1	51.0	47.3	47.1	3020	76	3303	52.0	49.6	50.6			
12/06	54.5	53.6	# -	53.9	53.7	53.4	53.2	52.9	53.2	52.7	52.1	51.0	47.2	46.7	2969	76	3301	45.5	46.7	47.0			
12/07	54.1	53.6	# -	53.7	53.7	53.9	53.4	53.0	53.2	52.7	52.7	51.2	48.0	47.7	2542	74	3288	56.5	51.9	53.3			
12/08	53.9	53.4	# -	53.6	53.6	53.6	53.7	53.6	54.0	53.3	52.7	51.2	49.1	49.0	2948	82	3305	50.0	49.9	49.8			
12/09	54.2	53.4	# -	53.5	53.4	53.4	53.4	53.2	53.5	53.2	51.9	50.5	47.4	47.9	1983	375	3302	47.0	48.5	50.0			
12/10	54.1	53.4	# -	53.2	52.8	52.4	? 51.5	51.1	51.2	51.4	50.7	50.0	44.6	44.9	2437	76	3313	44.0	40.4	43.0			
12/11	53.8	53.0	# -	52.9	52.5	52.0	? 51.0	50.2	50.1	49.5	50.7	? 49.9	44.1	? 43.2	3174	77	3305	39.5	38.9	40.0			
12/12	53.5	52.7	# -	52.5	52.0	51.7	50.7	50.3	50.4	49.3	50.2	? 49.8	43.6	43.2	2965	76	3308	44.0	46.0	46.2			
12/13	53.3	52.6	# -	52.3	51.6	51.4	? 49.5	49.2	49.5	49.1	49.8	49.6	44.4	44.0	1313	1050	3308	46.0	47.4	47.6			
12/14	53.2	52.6	# -	52.1	51.7	51.6	49.0	48.5	48.9	48.2	49.3	49.1	43.6	43.7	2985	132	3303	41.0	41.4	42.2			
12/15	53.2	52.3	# -	51.5	50.3	50.2	48.4	47.9	48.0	47.3	48.1	!	-	!	-	!	-	2509	585	3319	45.0	41.3	42.1
12/16	53.0	52.6	# -	51.6	50.5	50.5	47.8	46.9	47.2	46.4	49.3	? 48.5	? 41.6	? 40.5	1691	329	3333	46.0	44.4	43.7			
12/17	52.7	52.4	# -	51.4	50.9	50.8	48.9	48.1	48.3	47.5	48.5	47.8	44.0	42.9	1741	568	3332	43.5	39.3	41.1			
12/18	52.3	51.8	# -	51.2	50.9	50.7	48.7	47.9	48.0	47.6	48.4	47.2	43.7	44.0	3083	248	3334	41.5	39.0	39.3			
12/19	52.1	51.5	# -	51.2	50.9	50.5	49.3	48.5	48.5	? 47.7	48.3	47.2	43.9	44.3	2602	244	3340	39.0	38.3	38.2			
12/20	52.4	51.6	# -	51.2	50.9	50.6	? 49.4	48.7	48.8	48.2	48.3	47.2	43.9	44.5	2536	482	3267	43.0	40.5	42.2			
12/21	52.9	52.4	# -	51.0	50.6	50.1	48.6	47.9	48.0	47.6	47.8	46.8	42.9	43.6	2045	829	3236	36.5	35.2	37.0			
12/22	52.8	52.3	# -	50.8	50.5	50.4	48.6	48.2	48.2	47.5	48.5	46.9	43.2	43.7	2774	137	3254	44.5	42.7	43.3			
12/23	52.7	52.1	# -	50.9	50.5	50.5	47.3	47.2	47.6	47.5	48.7	47.0	43.6	44.3	2431	77	3300	46.5	45.2	46.5			
12/24	52.4	? 51.7	# -	51.4	51.0	51.0	49.3	48.5	48.7	48.1	48.1	46.5	43.4	44.1	2336	79	3302	49.5	48.2	50.0			
12/25	51.9	!	-	51.5	51.2	50.9	47.7	47.5	48.0	48.2	48.0	46.2	42.6	43.3	2629	114	3311	45.0	44.1	46.2			
12/26	51.5	!	-	51.2	50.6	49.9	46.5	45.6	45.8	45.3	46.9	46.0	41.8	42.4	2929	77	3310	40.0	41.3	41.3			
12/27	51.1	!	-	50.8	50.4	50.1	47.4	46.6	46.7	45.8	47.1	45.7	41.8	42.1	3545	104	3257	43.0	42.5	43.8			
12/28	51.1	? 50.6	# -	50.3	49.9	49.4	47.5	46.7	46.9	46.4	46.6	45.7	41.1	41.7	2227	540	3258	37.5	36.7	37.2			
12/29	51.2	50.4	# -	49.9	49.6	49.2	47.2	46.6	46.7	46.2	46.6	45.6	? 41.8	42.2	3893	77	3256	38.5	37.2	37.8			
12/30	51.0	50.4	# -	49.8	49.4	48.9	46.9	46.2	46.3	45.9	46.2	45.4	42.0	42.5	3228	88	3255	40.5	38.8	38.9			
12/31	50.7	50.2	# -	49.8	49.4	49.0	47.4	46.7	46.9	46.2	46.1	45.2	41.4	42.2	3020	153	3254	41.0	38.5	40.1			
Dec	53.0	52.5	-	52.1	51.7	51.5	50.1	49.5	49.7	49.2	49.4	48.4	44.4	44.5	2696	235	3295	45.5	43.6	44.9			
															Total CFS	83576	7284	102154					
															Total AF	165770	14448	202618					

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

- <sup>1</sup> 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
- <sup>2</sup> Current Sacramento River control point (see page 4 for more details)

D A T E	Redding (RDD) Daily Air Temperatures (°F)																																			
	Actual			Forecasted																																
	Previous Day			Current Day			1 Day			2 Days			3 Days			4 Days			5 Days			6 Days			7 Days			8 Days			9 Days			10 Days		
	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg
12/01	40	<b>80</b>	60.0	48	75	61.5	44	72	58.0	42	69	55.5	40	67	53.5	40	69	54.5	42	62	52.0	43	64	53.5	43	68	55.5	42	61	51.5	41	59	50.0	35	57	46.0
12/02	44	<b>83</b>	63.5	40	72	56.0	42	69	55.5	41	67	54.0	42	70	56.0	42	60	51.0	43	65	54.0	41	63	52.0	41	61	51.0	40	58	49.0	35	54	44.5	36	52	44.0
12/03	40	74	57.0	38	68	53.0	40	67	53.5	42	68	55.0	43	59	51.0	40	63	51.5	39	60	49.5	41	57	49.0	33	58	45.5	33	54	43.5	29	52	40.5	33	52	42.5
12/04	37	68	52.5	37	67	52.0	40	70	55.0	44	63	53.5	42	66	54.0	39	60	49.5	42	56	49.0	34	53	43.5	37	56	46.5	38	51	44.5	35	53	44.0	35	54	44.5
12/05	36	69	52.5	35	72	53.5	43	63	53.0	42	67	54.5	41	60	50.5	42	56	49.0	32	54	43.0	30	54	42.0	35	51	43.0	39	54	46.5	39	56	47.5	39	53	46.0
12/06	31	73	52.0	44	56	50.0	38	68	53.0	41	56	48.5	39	55	47.0	30	54	42.0	30	51	40.5	34	51	42.5	41	56	48.5	43	59	51.0	39	55	47.0	39	56	47.5
12/07	43	48	45.5	42	66	54.0	40	55	47.5	38	54	46.0	30	54	42.0	30	49	39.5	36	49	42.5	38	50	44.0	42	51	46.5	37	50	43.5	37	52	44.5	36	55	45.5
12/08	42	71	56.5	49	52	50.5	39	55	47.0	31	57	44.0	29	50	39.5	37	47	42.0	39	50	44.5	34	50	42.0	32	49	40.5	39	50	44.5	33	54	43.5	37	54	45.5
12/09	49	51	50.0	47	56	51.5	30	55	42.5	30	49	39.5	38	47	42.5	39	49	44.0	33	48	40.5	29	45	37.0	38	50	44.0	41	53	47.0	35	57	46.0	38	56	47.0
12/10	37	57	47.0	34	55	44.5	29	48	38.5	37	48	42.5	40	50	45.0	36	48	42.0	32	45	38.5	36	49	42.5	36	53	44.5	38	53	45.5	32	54	43.0	35	57	46.0
12/11	31	57	44.0	33	47	40.0	37	48	42.5	40	50	45.0	34	49	41.5	31	44	37.5	36	48	42.0	31	53	42.0	33	54	43.5	39	53	46.0	32	56	44.0	37	58	47.5
12/12	32	47	39.5	41	48	44.5	41	50	45.5	33	49	41.0	29	44	36.5	36	48	42.0	29	50	39.5	28	50	39.0	34	51	42.5	42	54	48.0	34	52	43.0	35	57	46.0
12/13	41	47	44.0	47	50	48.5	31	48	39.5	29	43	36.0	36	48	42.0	28	51	39.5	29	50	39.5	32	53	42.5	33	51	42.0	38	54	46.0	36	56	46.0	38	57	47.5
12/14	43	49	46.0	39	48	43.5	29	44	36.5	36	48	42.0	29	52	40.5	32	50	41.0	32	50	41.0	35	47	41.0	40	53	46.5	39	50	44.5	34	50	42.0	37	53	45.0
12/15	33	49	41.0	35	40	37.5	36	47	41.5	28	51	39.5	29	51	40.0	32	47	39.5	35	46	40.5	35	48	41.5	41	51	46.0	37	53	45.0	35	53	44.0	36	51	43.5
12/16	34	56	45.0	44	48	46.0	28	52	40.0	28	51	39.5	29	44	36.5	34	44	39.0	36	46	41.0	36	49	42.5	37	51	44.0	38	52	45.0	33	51	42.0	38	50	44.0
12/17	44	48	46.0	28	53	40.5	28	52	40.0	30	50	40.0	32	48	40.0	36	46	41.0	38	48	43.0	41	50	45.5	43	53	48.0	41	52	46.5	36	50	43.0	37	53	45.0
12/18	31	56	43.5	34	52	43.0	29	49	39.0	32	49	40.5	35	45	40.0	37	47	42.0	39	50	44.5	37	47	42.0	41	53	47.0	39	51	45.0	37	54	45.5	35	58	46.5
12/19	29	54	41.5	44	47	45.5	33	49	41.0	34	45	39.5	38	49	43.5	39	51	45.0	34	47	40.5	36	46	41.0	35	51	43.0	35	51	43.0	30	50	40.0	33	51	42.0
12/20	37	41	39.0	43	49	46.0	30	50	40.0	37	49	43.0	40	50	45.0	33	47	40.0	36	47	41.5	31	45	38.0	39	52	45.5	37	51	44.0	35	54	44.5	35	57	46.0
12/21	34	52	43.0	29	52	40.5	38	50	44.0	41	52	46.5	34	47	40.5	36	47	41.5	31	46	38.5	32	45	38.5	36	47	41.5	37	51	44.0	33	54	43.5	37	52	44.5
12/22	29	44	36.5	41	47	44.0	41	52	46.5	35	49	42.0	36	48	42.0	31	45	38.0	34	47	40.5	31	42	36.5	32	51	41.5	37	50	43.5	34	52	43.0	35	56	45.5
12/23	43	46	44.5	44	53	48.5	36	50	43.0	37	49	43.0	31	45	38.0	31	45	38.0	27	42	34.5	29	43	36.0	37	54	45.5	40	54	47.0	37	58	47.5	39	58	48.5
12/24	44	49	46.5	43	50	46.5	37	48	42.5	31	44	37.5	32	45	38.5	22	40	31.0	24	41	32.5	23	44	33.5	25	51	38.0	38	51	44.5	31	51	41.0	34	54	44.0
12/25	43	56	49.5	40	48	44.0	30	44	37.0	29	44	36.5	23	39	31.0	28	45	36.5	25	46	35.5	27	48	37.5	35	54	44.5	40	50	45.0	34	53	43.5	34	55	44.5
12/26	40	50	45.0	34	44	39.0	33	45	39.0	24	38	31.0	27	44	35.5	25	47	36.0	28	47	37.5	25	46	35.5	32	52	42.0	39	51	45.0	36	52	44.0	40	55	47.5
12/27	34	46	40.0	35	45	40.0	26	39	32.5	30	44	37.0	26	46	36.0	29	49	39.0	26	47	36.5	26	44	35.0	36	51	43.5	43	49	46.0	38	54	46.0	36	51	43.5
12/28	35	51	43.0	36	39	37.5	32	44	38.0	25	46	35.5	29	48	38.5	25	48	36.5	26	44	35.0	33	46	39.5	44	51	47.5	36	50	43.0	35	52	43.5	34	59	46.5
12/29	36	39	37.5	32	43	37.5	28	46	37.0	27	48	37.5	27	51	39.0	26	48	37.0	32	48	40.0	41	50	45.5	39	51	45.0	42	53	47.5	36	56	46.0	37	55	46.0
12/30	32	45	38.5	31	47	39.0	27	48	37.5	27	51	39.0	26	47	36.5	33	49	41.0	40	50	45.0	43	53	48.0	40	52	46.0	42	54	48.0	39	57	48.0	37	54	45.5
12/31	31	50	40.5	29	49	39.0	27	50	38.5	26	45	35.5	31	47	39.0	42	51	46.5	45	53	49.0	44	55	49.5	41	58	49.5	43	56	49.5	40	59	49.5	39	60	49.5

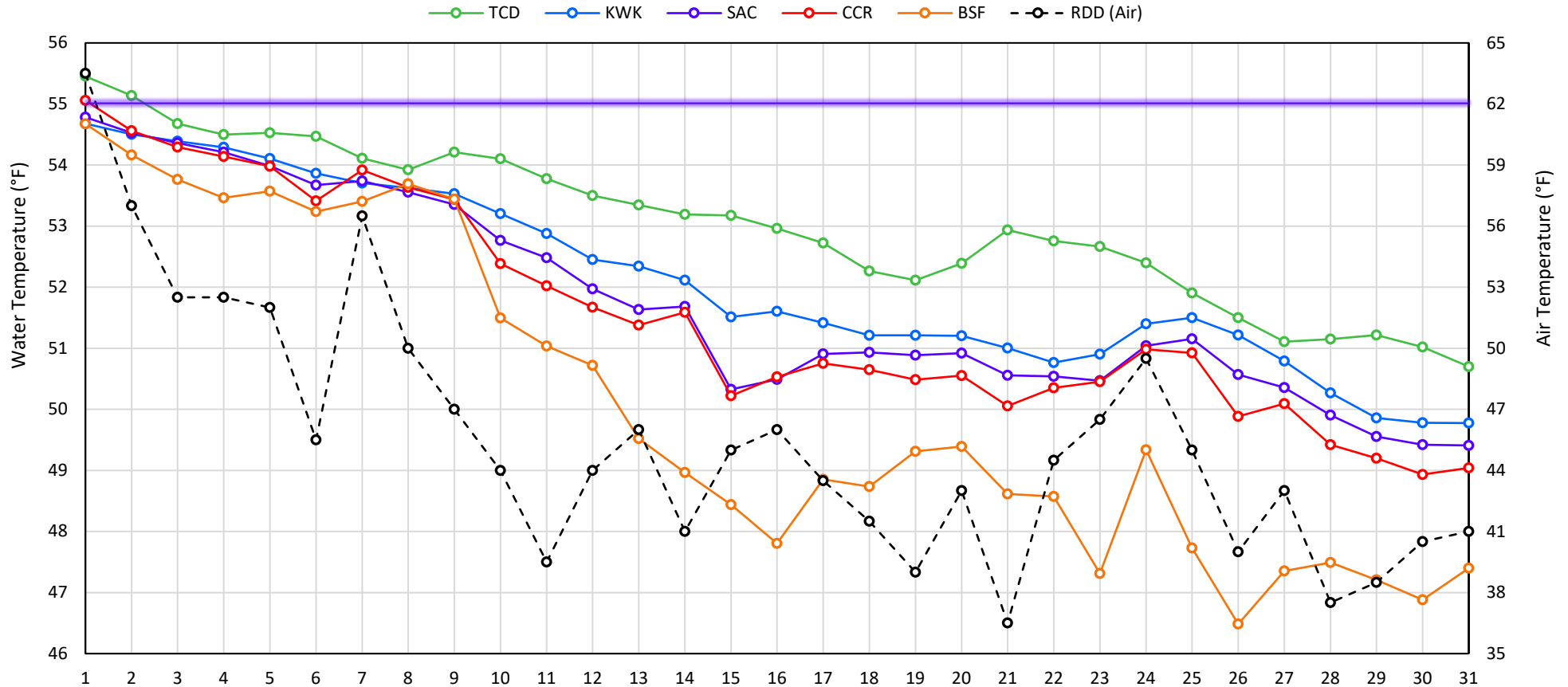
Web Links

- [10-Day Min/Max Forecast](#)
- [Previous Days Min/Max Actuals](#)

Legend

- NR = Forecasted temperatures not recorded
- 100** = Previous day actual temperatures in red and bolded indicate a record temperature for that date

## Mean Daily Temperatures



### Station Details

Code	Body of Water	Location <sup>1</sup>	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	<a href="#">Click Here</a>
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	<a href="#">Click Here</a>
SAC	Sacramento River	4.8 miles downstream of Keswick Dam	<a href="#">Click Here</a>
CCR	Sacramento River	9.7 miles downstream of Keswick Dam	<a href="#">Click Here</a>
BSF	Sacramento River	25 miles downstream of Keswick Dam	<a href="#">Click Here</a>
JLF	Sacramento River	34 miles downstream of Keswick Dam	<a href="#">Click Here</a>
BND	Sacramento River	41 miles downstream of Keswick Dam	<a href="#">Click Here</a>
RDB	Sacramento River	58 miles downstream of Keswick Dam	<a href="#">Click Here</a>
IGO	Clear Creek	7.3 miles downstream of Whiskeytown Dam	<a href="#">Click Here</a>
LWS	Trinity River	1.1 miles downstream of Lewiston Dam	<a href="#">Click Here</a>
DGC	Trinity River	19 miles downstream of Lewiston Dam	<a href="#">Click Here</a>
NFH	Trinity River	38 miles downstream of Lewiston Dam	<a href="#">Click Here</a>

### Water Right Temperature Control Points

River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	CCR	56	09/21/2020	04/18/2021
Sacramento	CCR	60	04/18/2021	05/17/2021
Sacramento	SAC	57	05/17/2021	06/15/2021
<b>Sacramento</b>	<b>SAC</b>	<b>55</b>	<b>06/15/2021</b>	<b>TBD</b>
Trinity	DGC	56	09/15/2021	10/01/2021
Trinity	NFH	56	10/01/2021	12/31/2021

### Notes

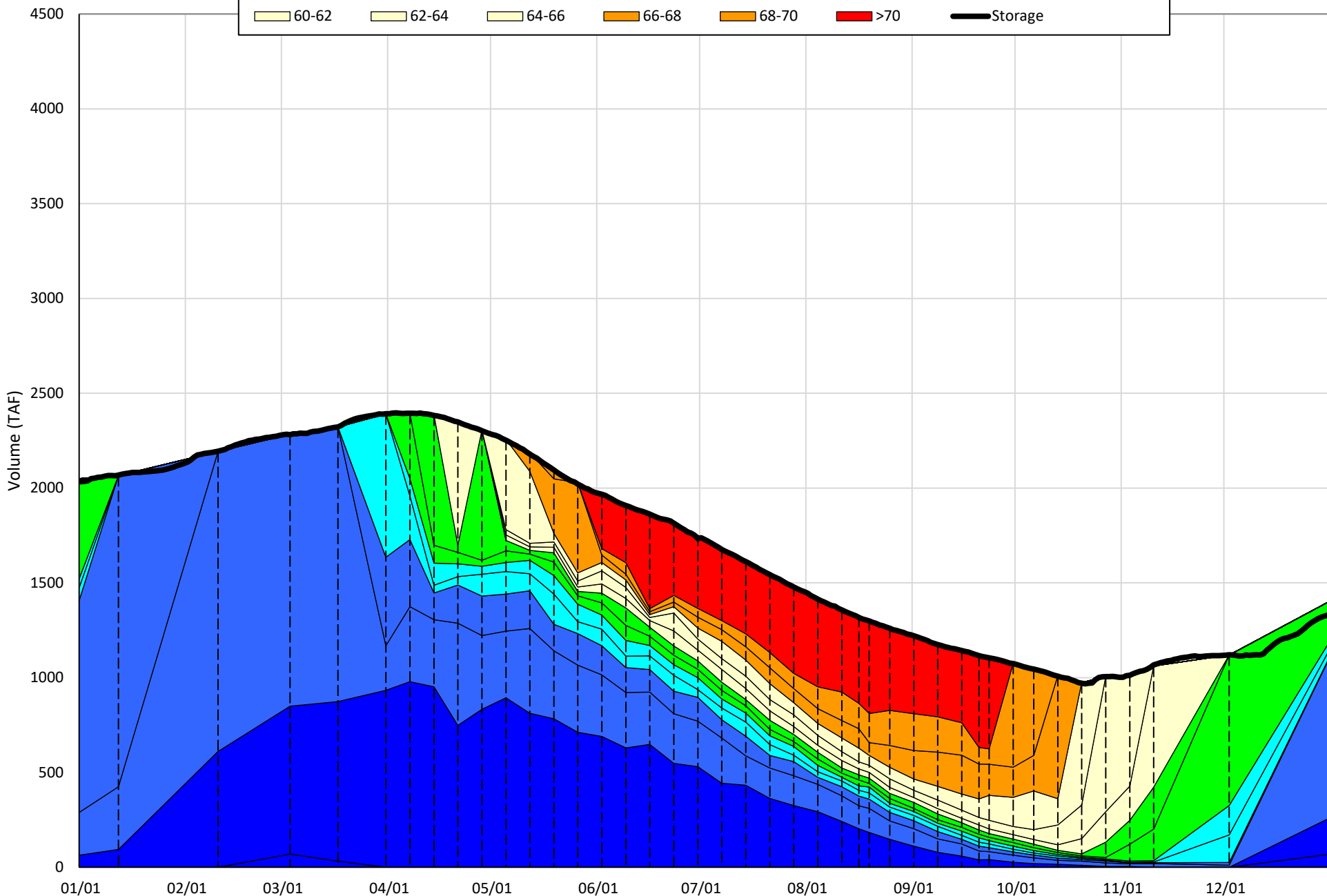
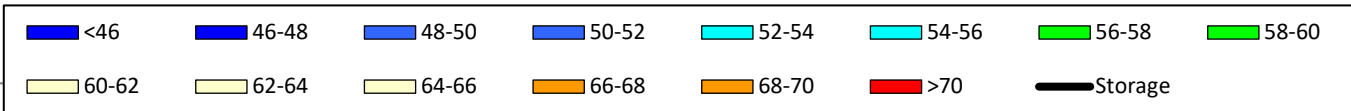
<sup>1</sup> Distances are approximate

# Shasta Lake Isothermobaths & Cold Water Pool Statistics

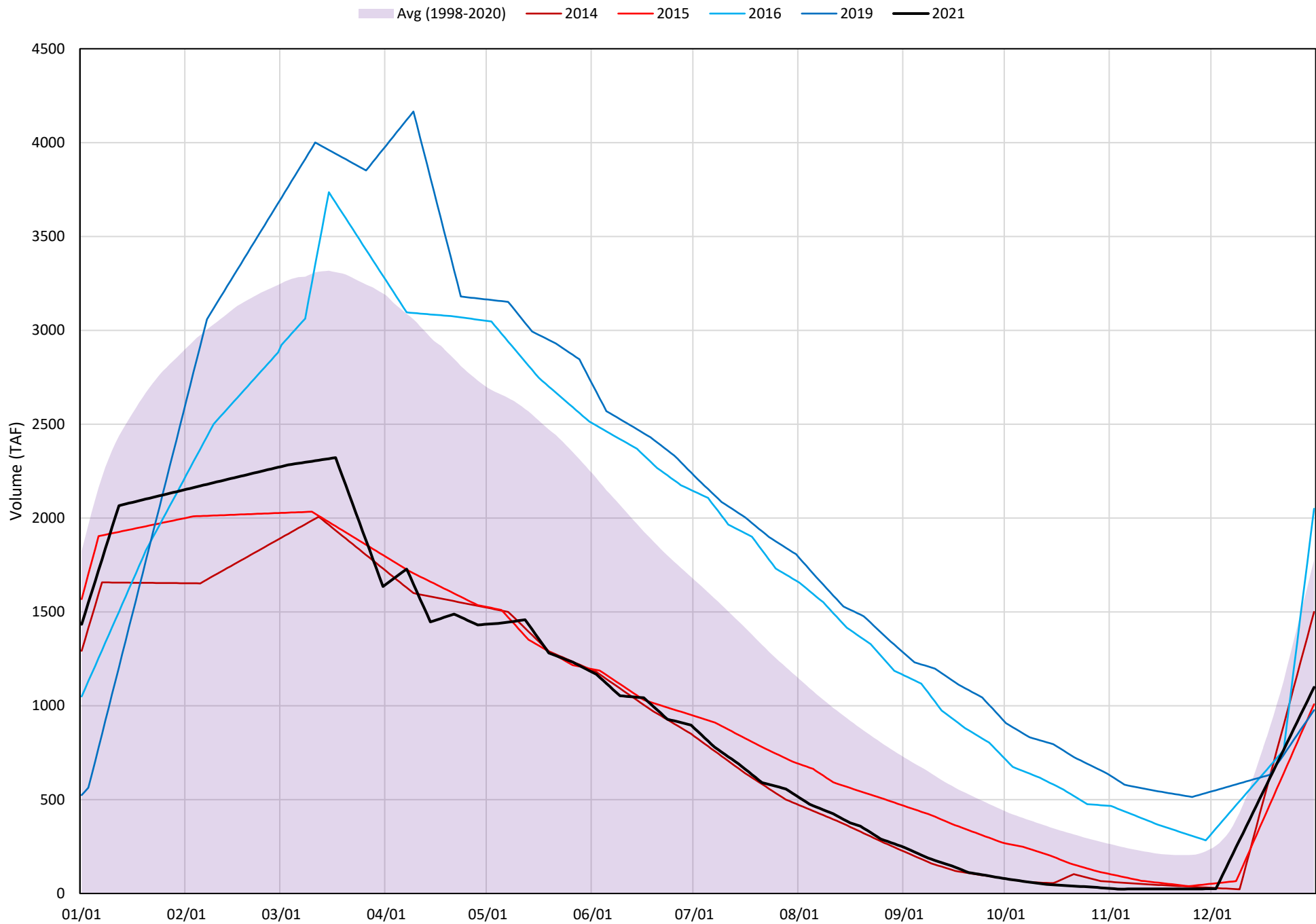
## 2021

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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 - 2021

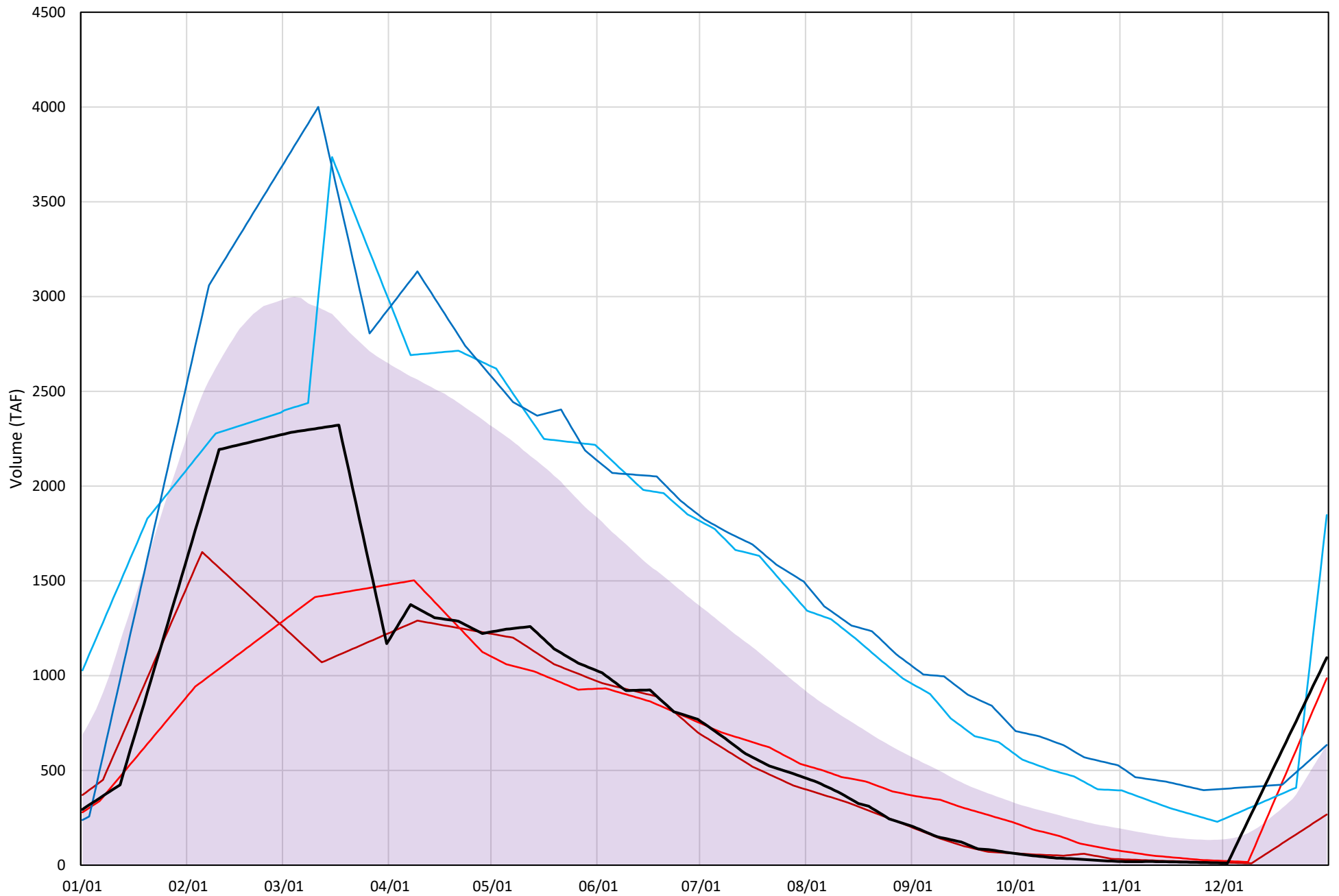


# Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$



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

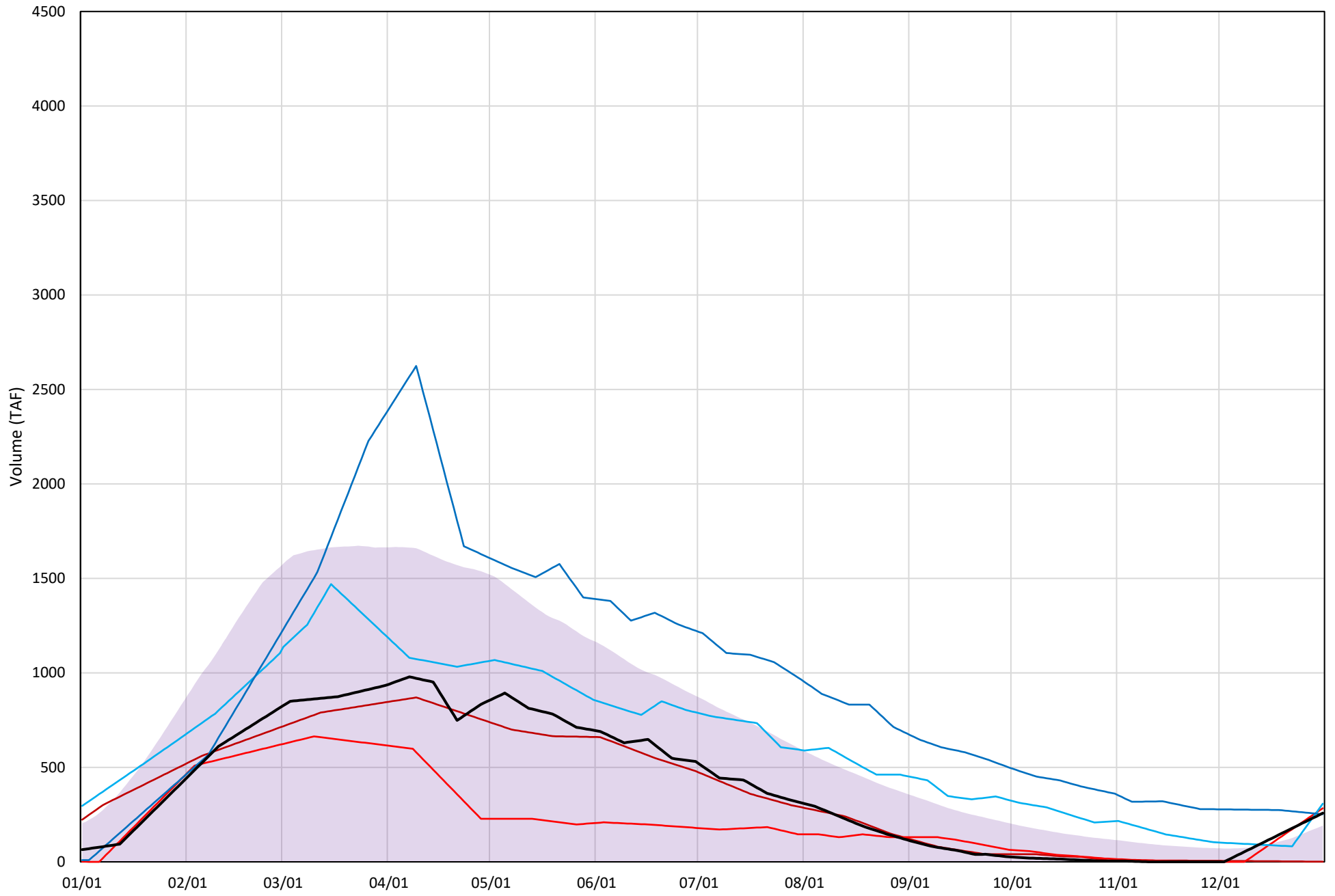
Avg (1998-2020) 2014 2015 2016 2019 2021





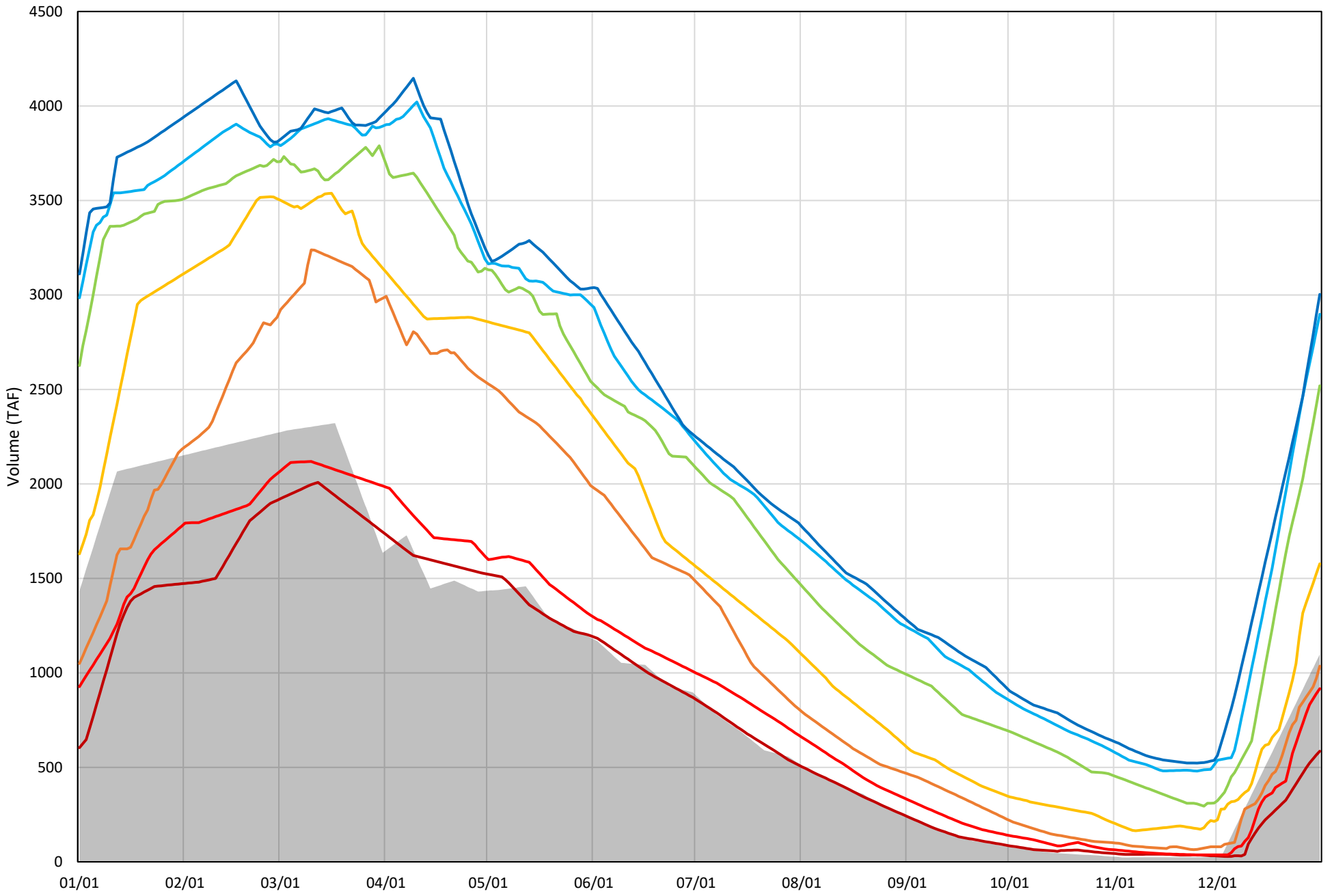
# Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (1998-2020) 2014 2015 2016 2019 2021



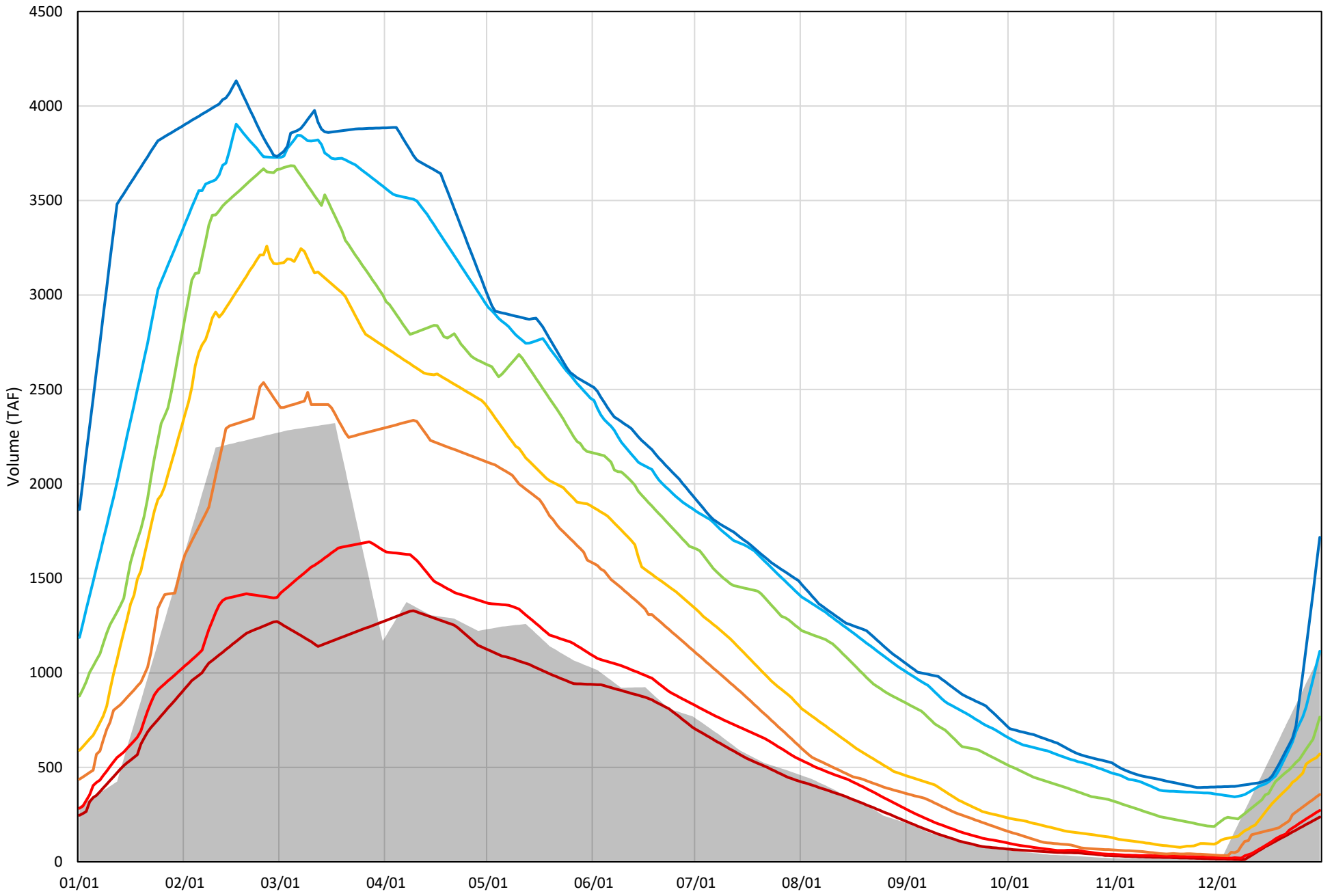
Shasta Lake Cold Water Pool Volume  $\leq 52^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



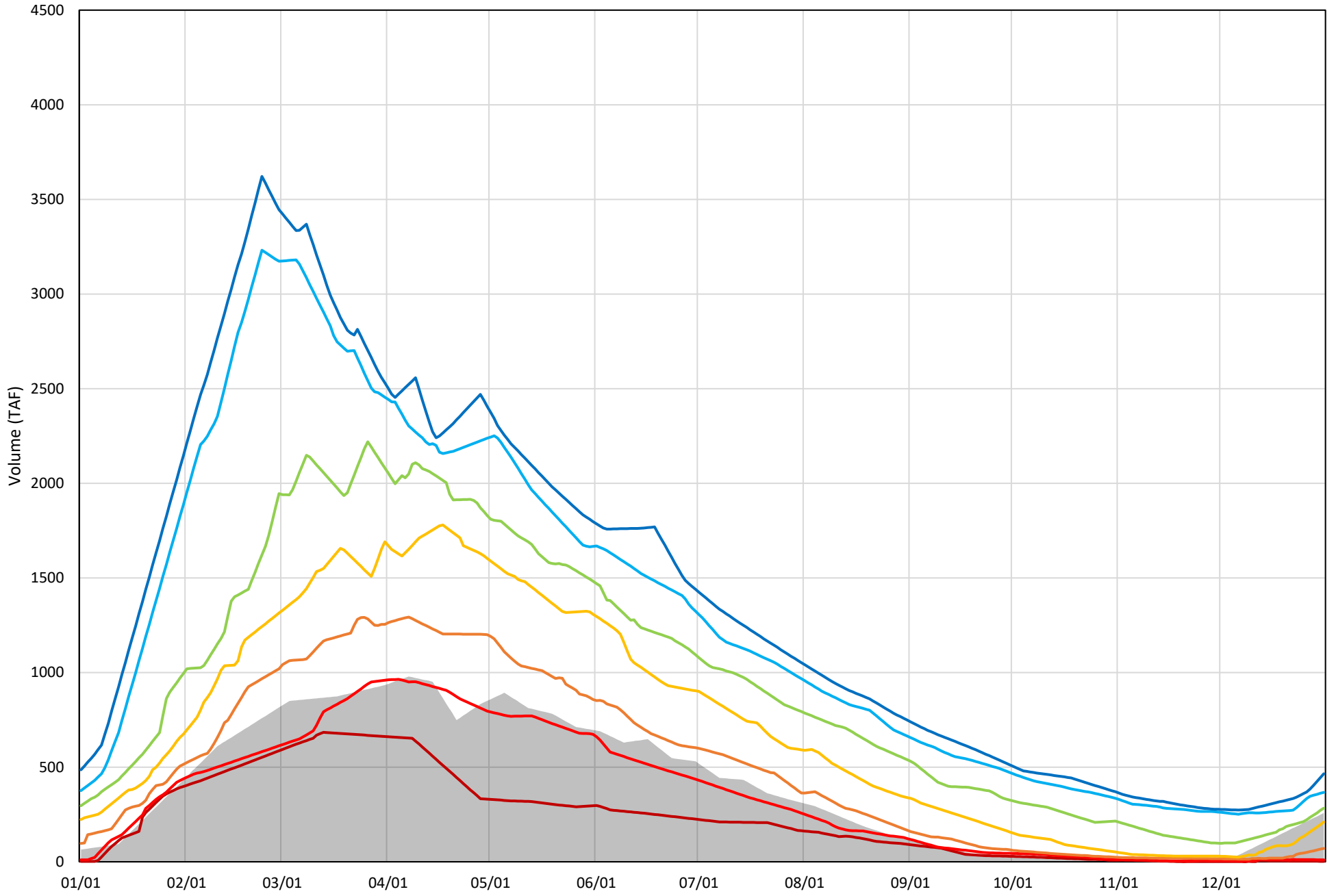
Shasta Lake Cold Water Pool Volume  $\leq 50^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



Shasta Lake Cold Water Pool Volume  $\leq 48^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



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

Dec-31 2021	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
1998	1460	-215	209	628	138	-20	84	81
1999	687	-507	-29	408	65	-48	-12	41
2000	334	-738	-182	418	31	-70	-73	58
2001	214	47	-65	109	20	4	-26	17
2002	1699	-446	-13	719	160	-42	-5	69
2003	1782	-644	-236	887	168	-61	-95	108
2004	-90	-353	-105	183	-9	-33	-42	28
2005	1355	-381	-89	608	128	-36	-36	67
2006	1435	-497	-31	654	135	-47	-12	65
2007	536	-787	-158	494	50	-74	-63	63
2008	-168	-168	-123	153	-16	-16	-49	27
2009	464	-597	-21	361	44	-56	-8	36
2010	1847	-517	-222	862	174	-49	-89	104
2011	1258	-507	145	637	119	-48	58	75
2012	1351	-446	45	614	127	-42	18	62
2013	109	-714	-52	292	10	-68	-21	33
2014	372	-802	-248	474	35	-76	-100	70
2015	-94	-114	23	77	-9	-11	9	10
2016	845	630	34	503	80	60	14	51
2017	-174	-559	65	266	-16	-53	26	32
2018	-576	-838	-239	551	-54	-79	-96	77
2019	-111	-439	5	185	-10	-42	2	18
2020	258	-786	-189	411	24	-74	-76	58
2021	0	0	0	0	0	0	0	0

Historic - Current

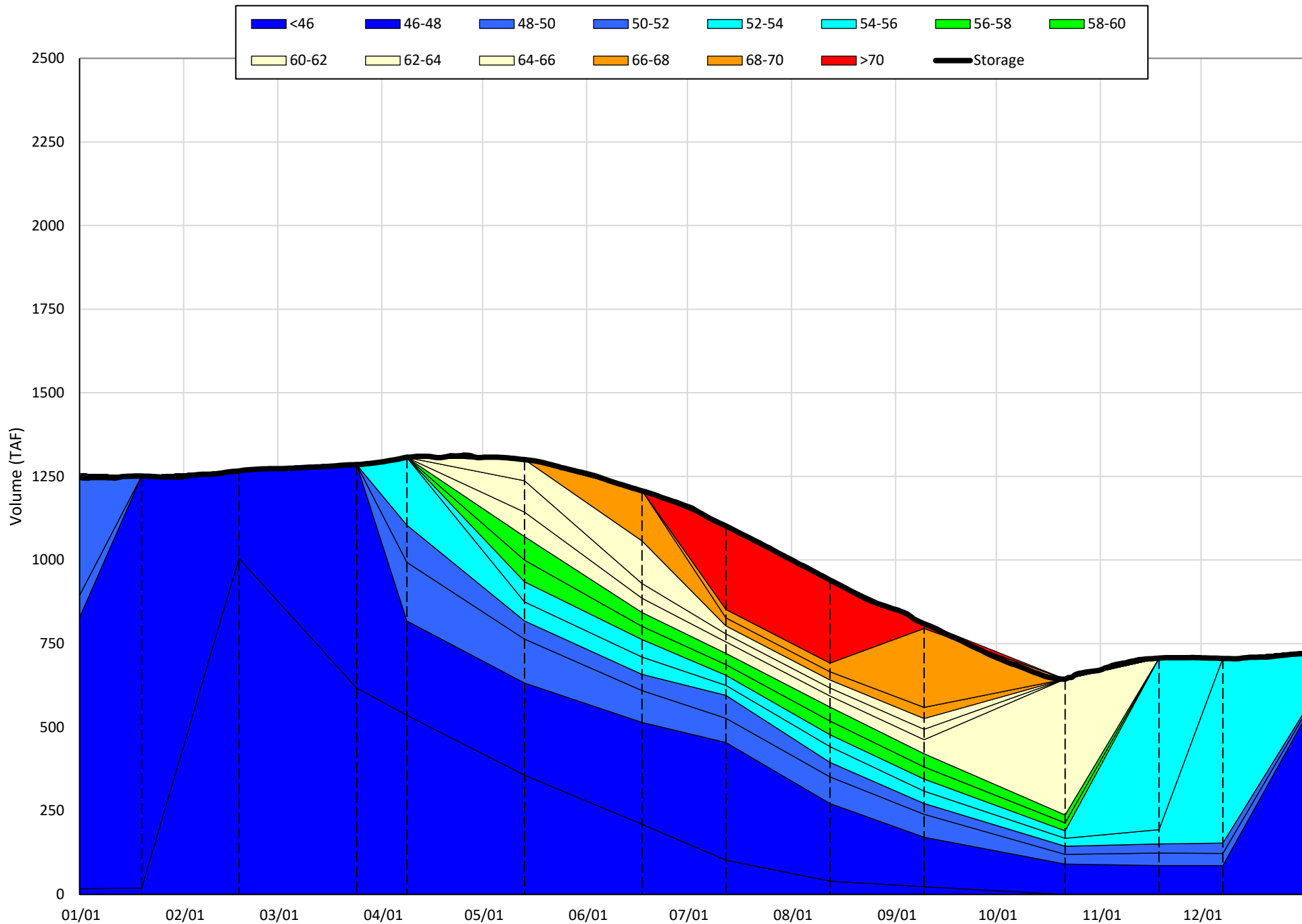
(Historic - Current) / Current

# Trinity Lake Isothermobaths & Cold Water Pool Statistics

## 2021

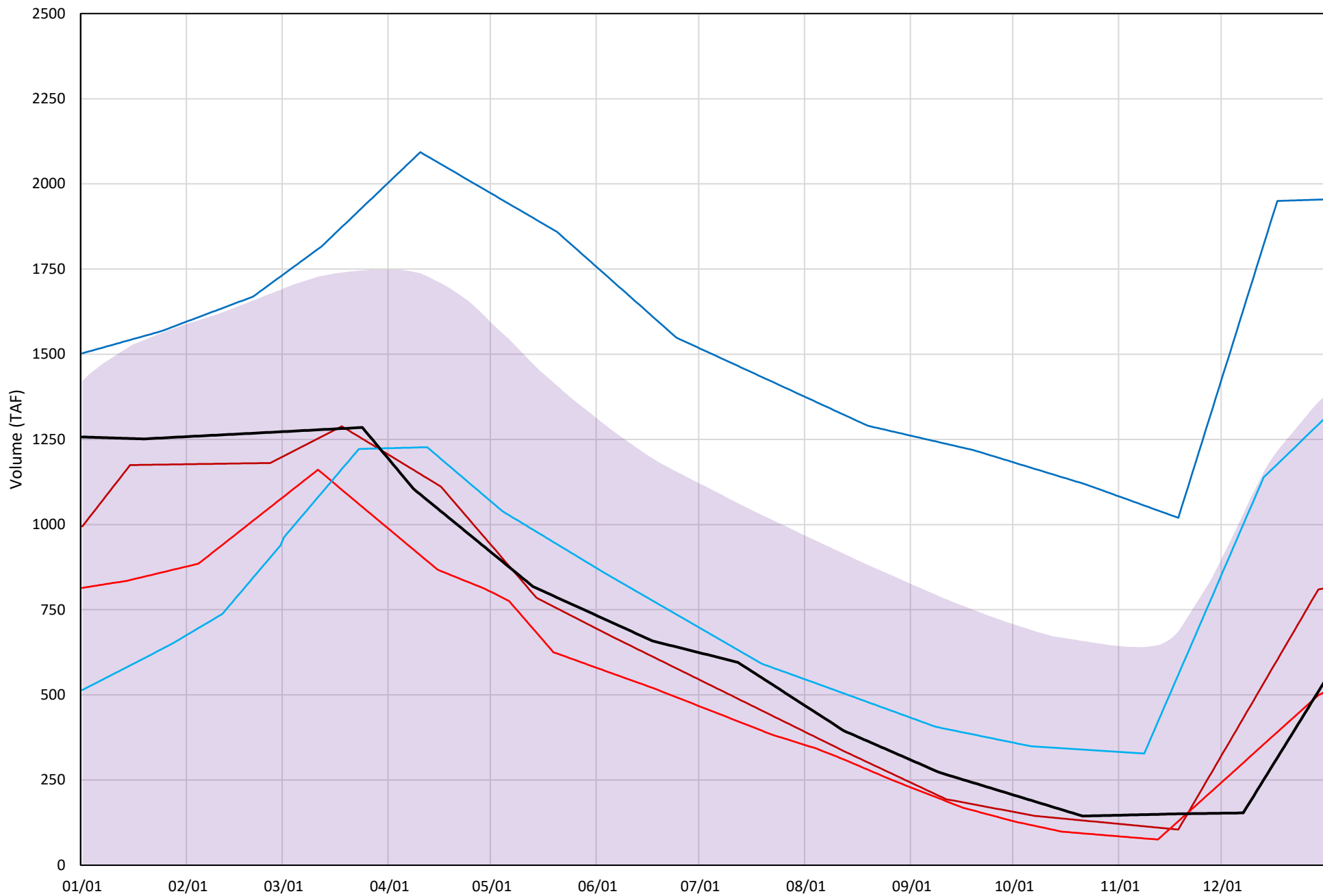
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - 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 - 2021



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

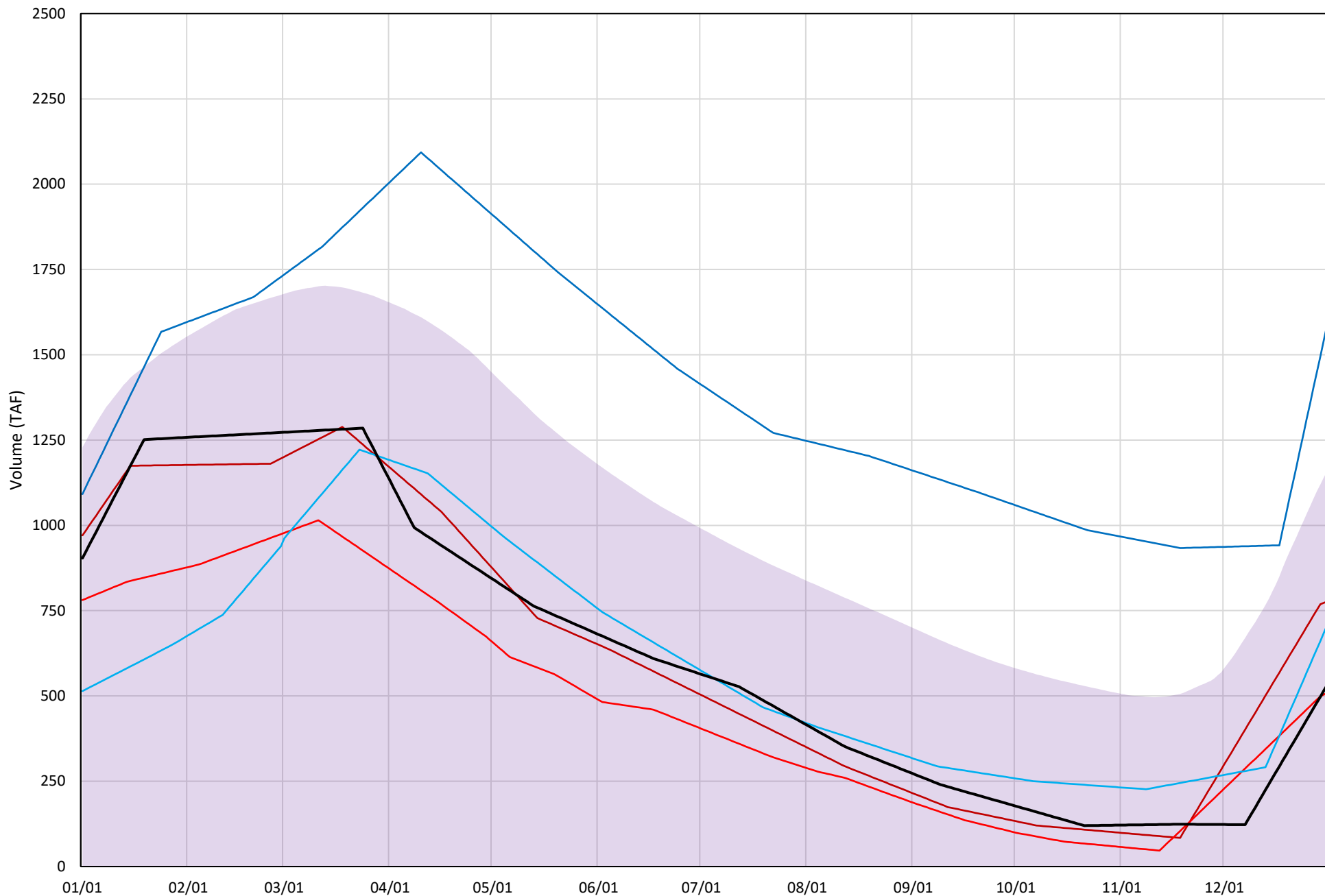
Avg (2000-2020) 2014 2015 2016 2019 2021





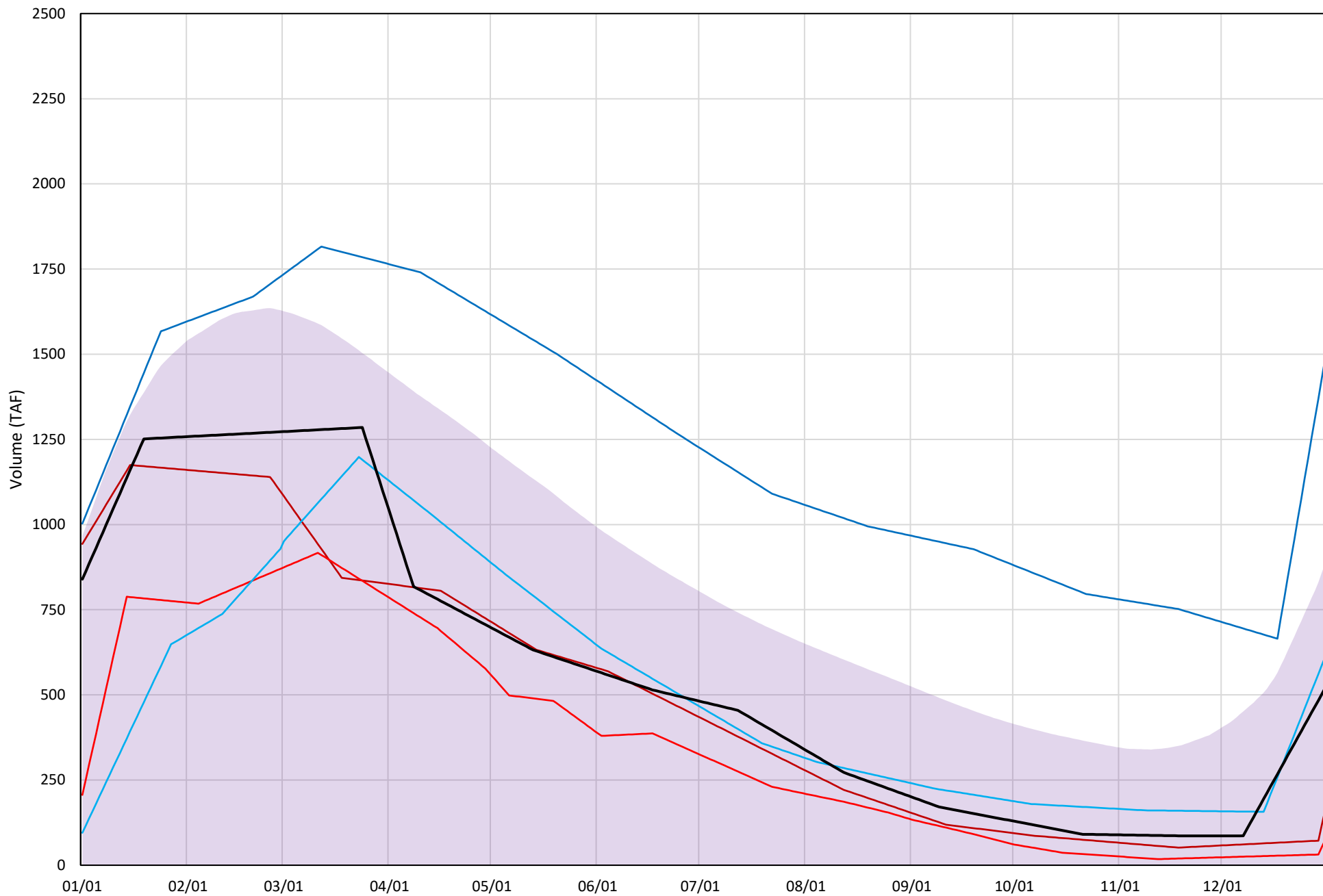
# Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021

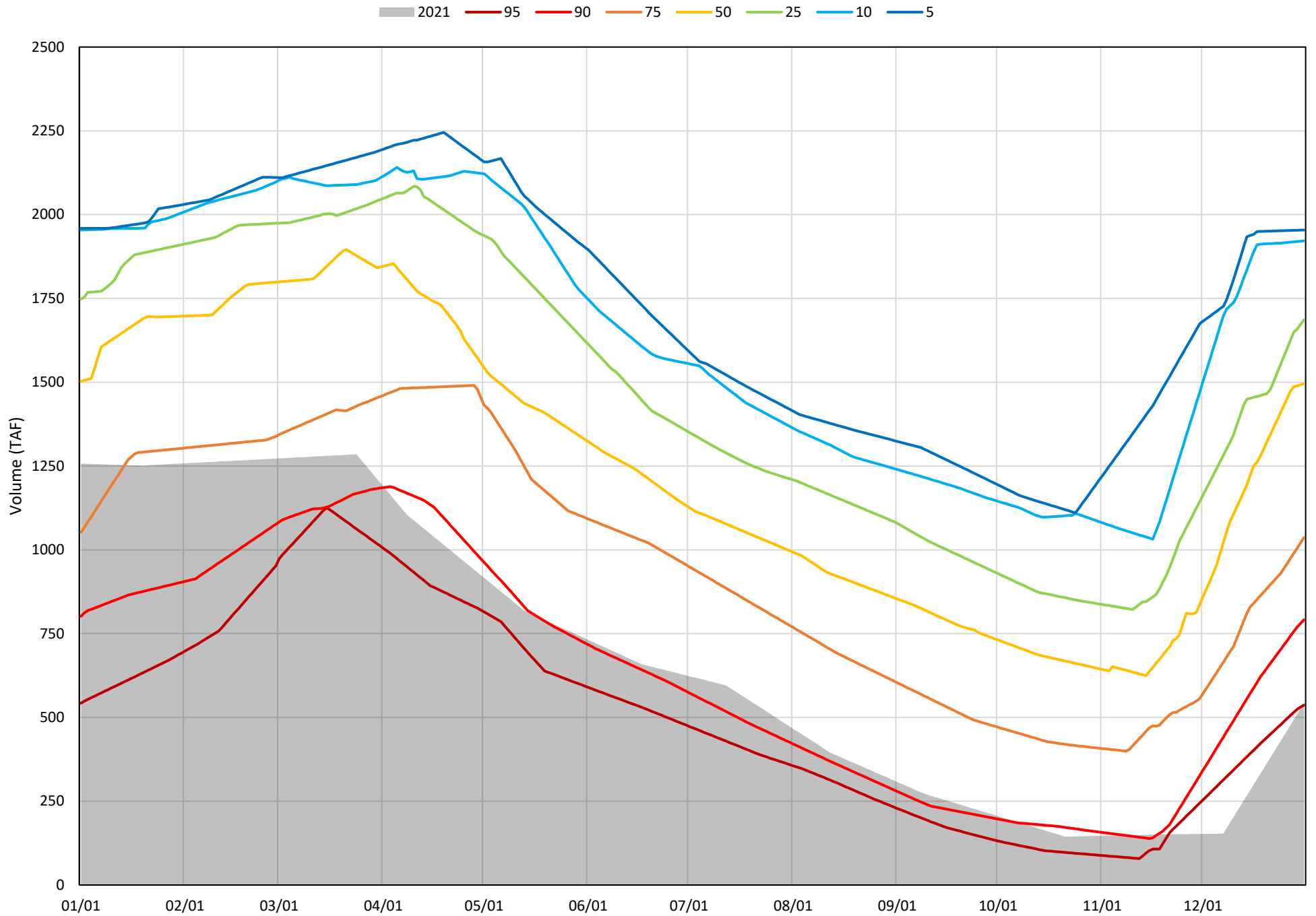


# Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021

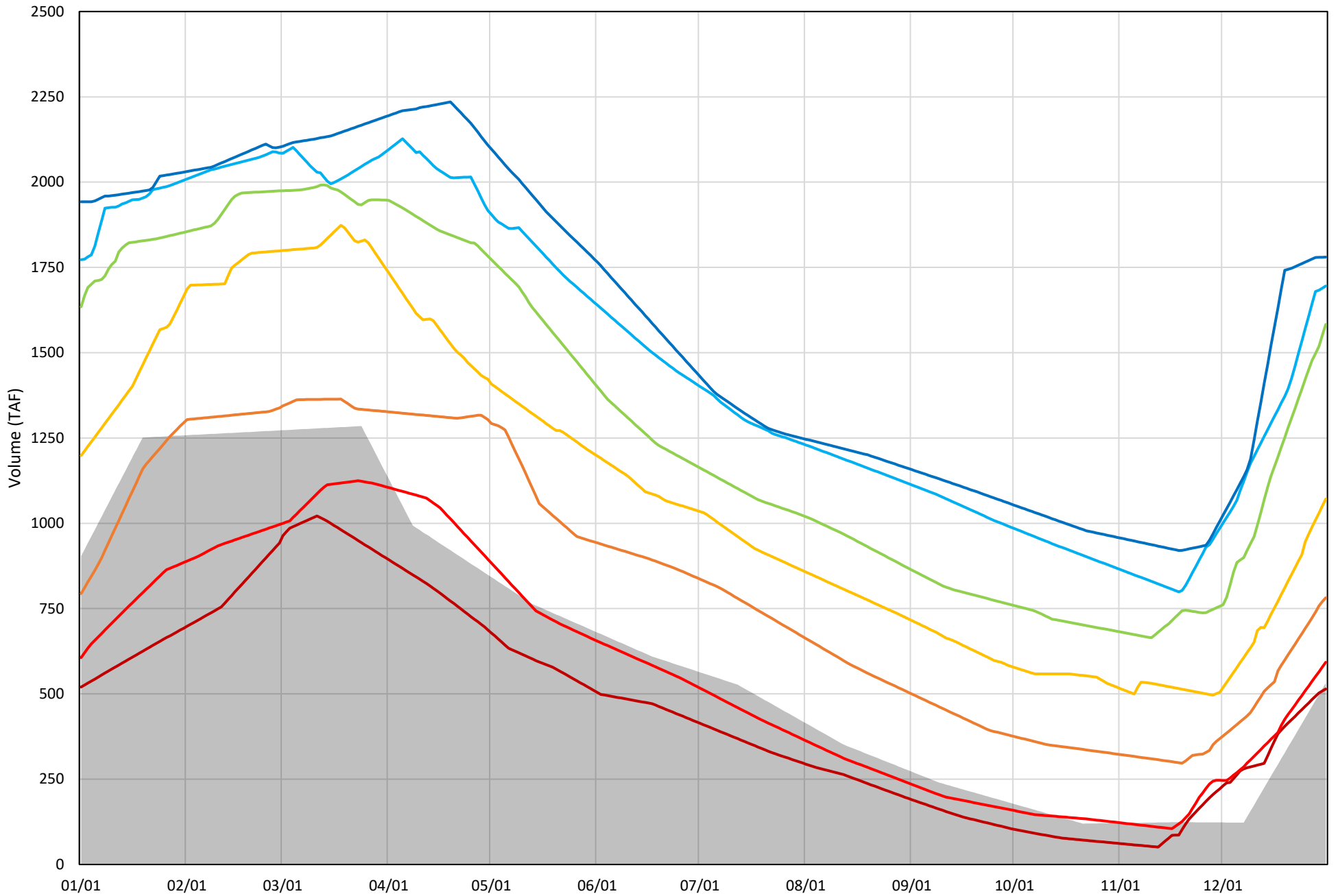


Trinity Lake Cold Water Pool Volume  $\leq 52^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

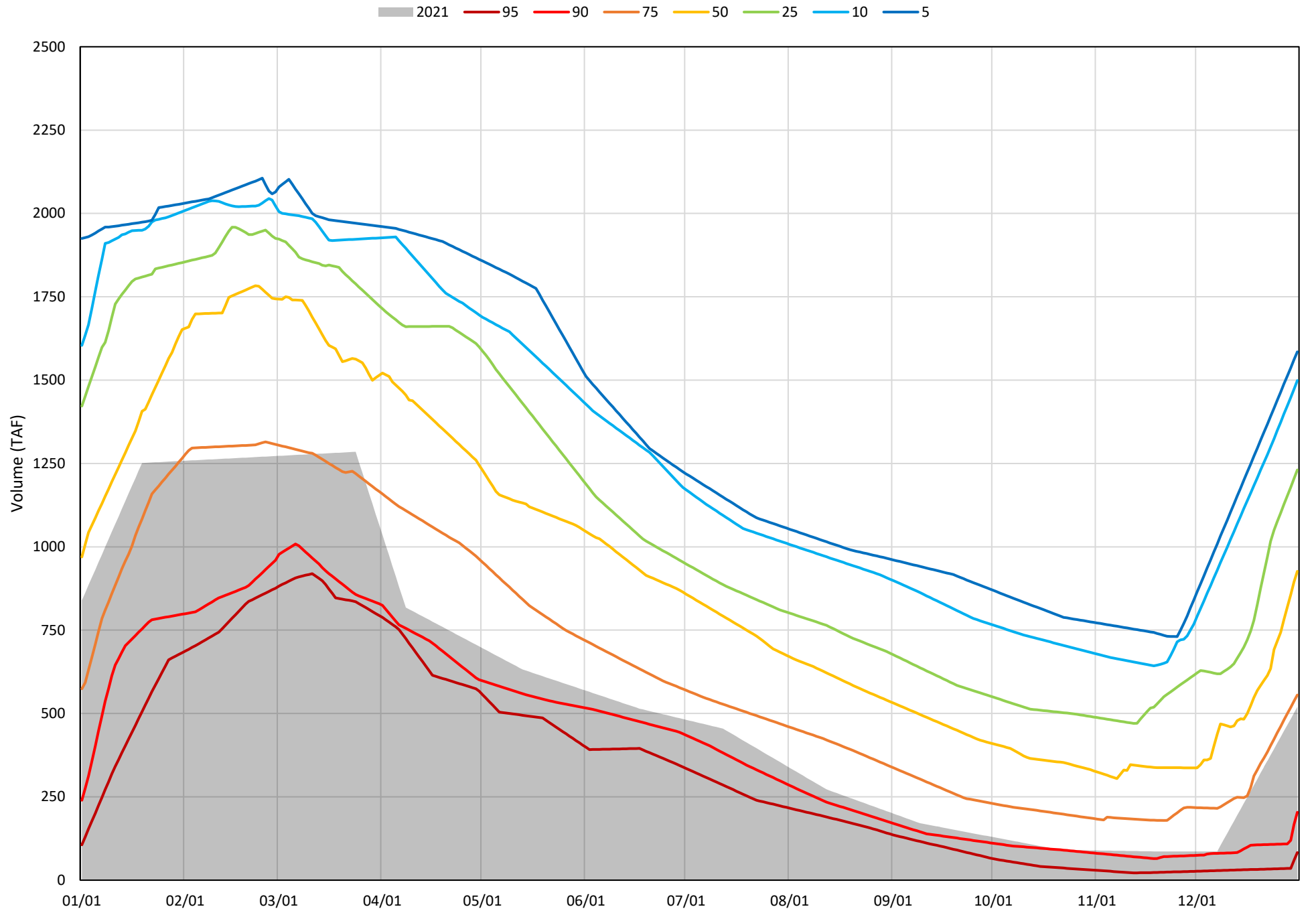


Trinity Lake Cold Water Pool Volume ≤50°F - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



Trinity Lake Cold Water Pool Volume  $\leq 48^{\circ}\text{F}$  - Percent Exceedances (2000-2020)



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

Dec-31 2021	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	1183	1194	-138	838	225	232	-28	161
2001	547	511	454	504	104	99	91	98
2002	824	818	768	803	157	159	153	156
2003	1276	667	536	826	243	130	107	160
2004	966	252	84	434	184	49	17	83
2005	1095	1045	956	1032	208	203	190	201
2006	1262	1273	393	976	240	247	78	188
2007	666	656	638	653	127	127	127	127
2008	247	237	233	239	47	46	46	46
2009	393	37	-13	148	75	7	-3	28
2010	1086	1080	1069	1078	207	210	213	210
2011	1424	498	336	753	271	97	67	145
2012	1012	1002	974	996	192	195	194	194
2013	443	427	408	426	84	83	81	83
2014	285	258	-385	309	54	50	-77	60
2015	-22	-11	-449	161	-4	-2	-89	32
2016	777	169	85	344	148	33	17	66
2017	1110	1096	-129	779	211	213	-26	150
2018	971	536	452	653	185	104	90	126
2019	1428	1027	927	1127	271	199	185	219
2020	732	350	292	458	139	68	58	88
2021	0	0	0	0	0	0	0	0

Historic - Current

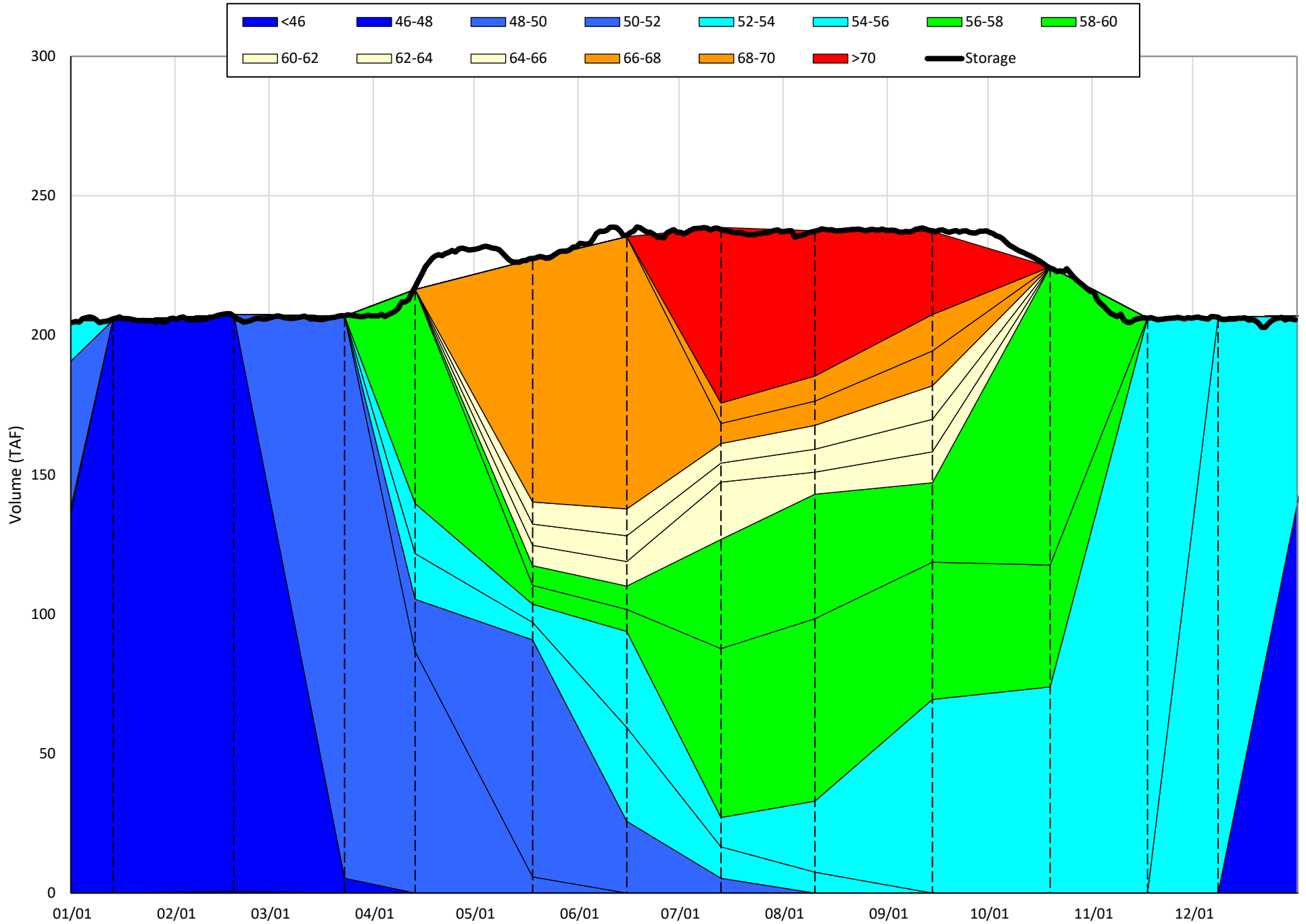
(Historic - Current) / Current

# Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

## 2021

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

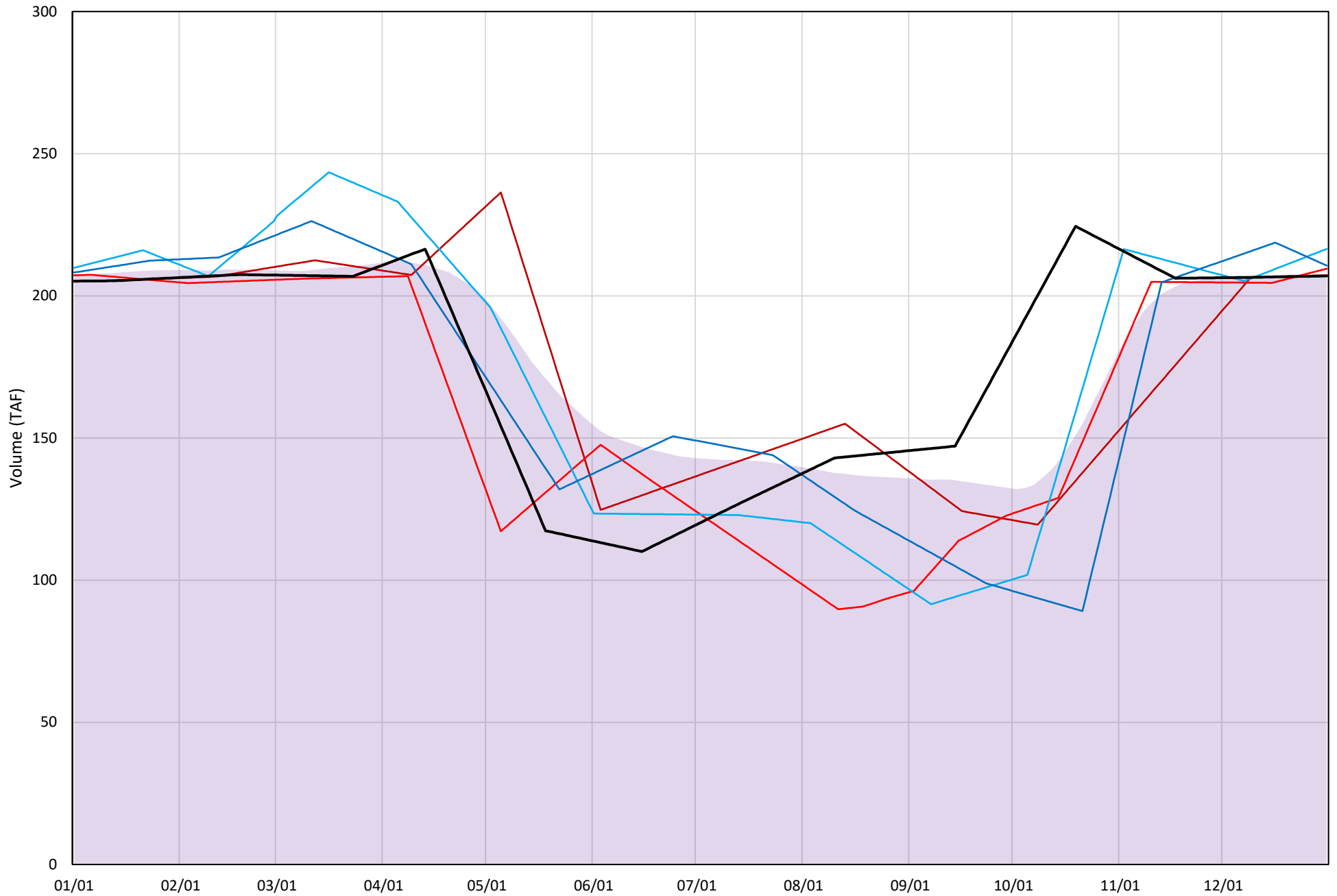
# Whiskeytown Lake Isothermobaths Plot - 2021





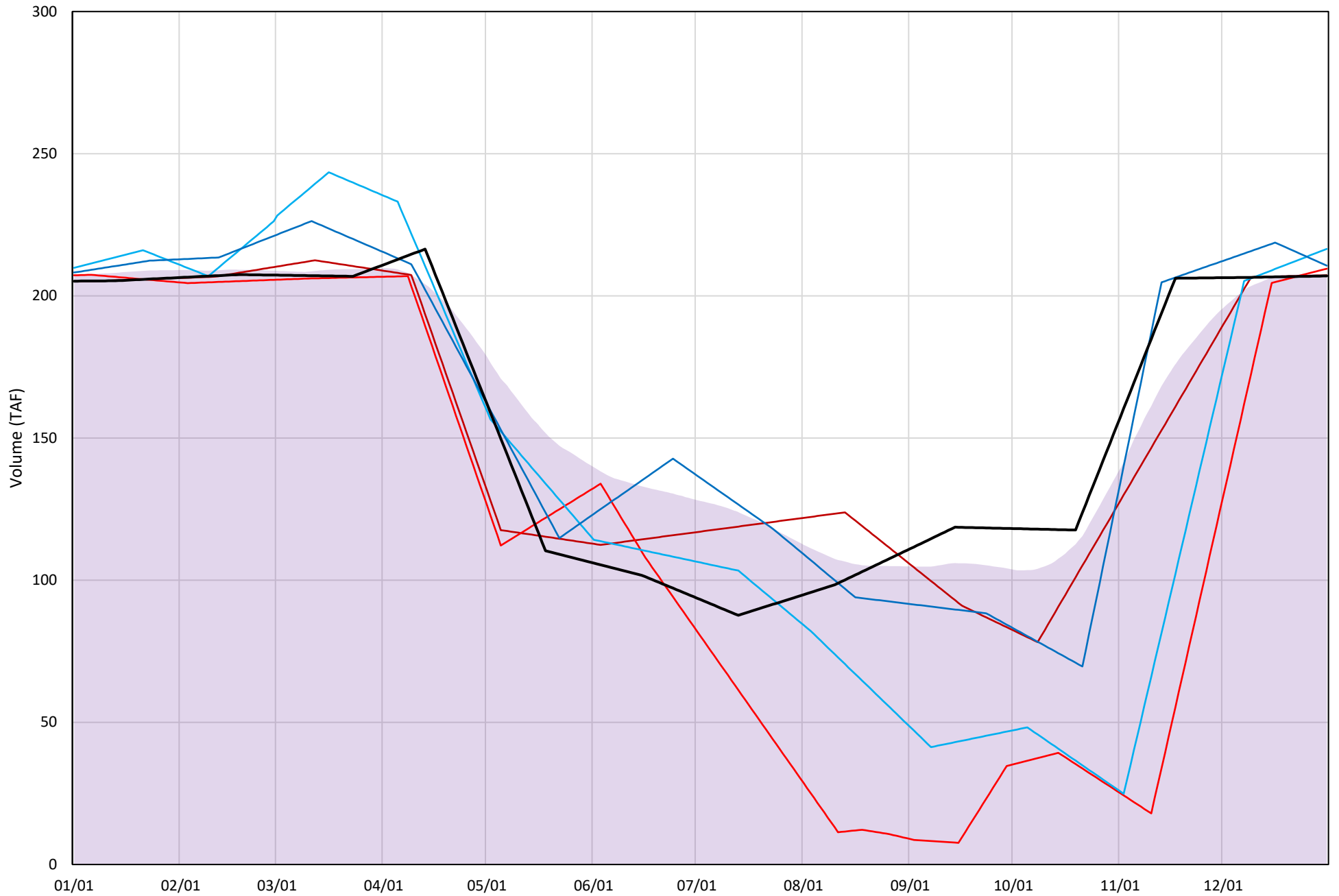
# Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021



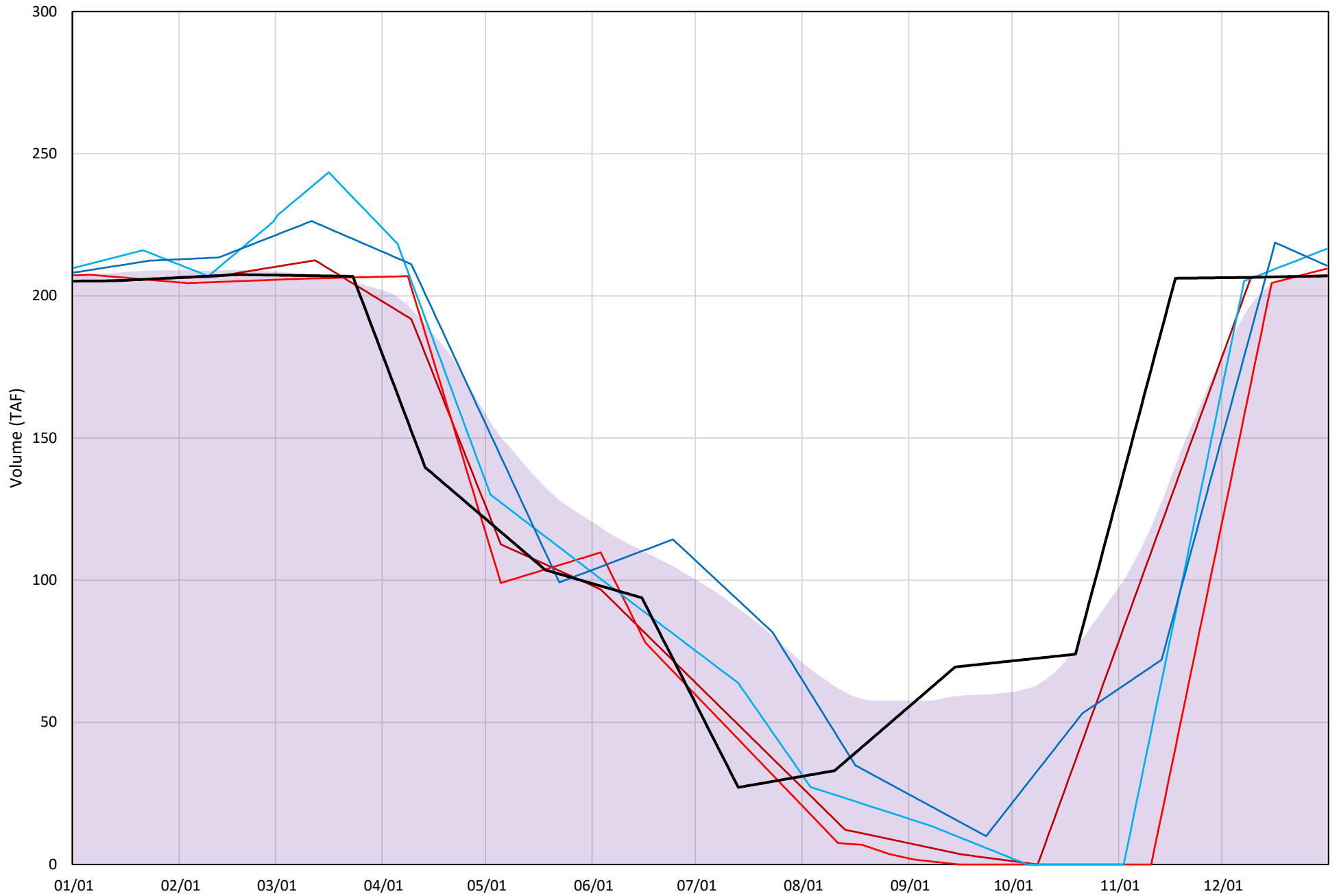
# Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021

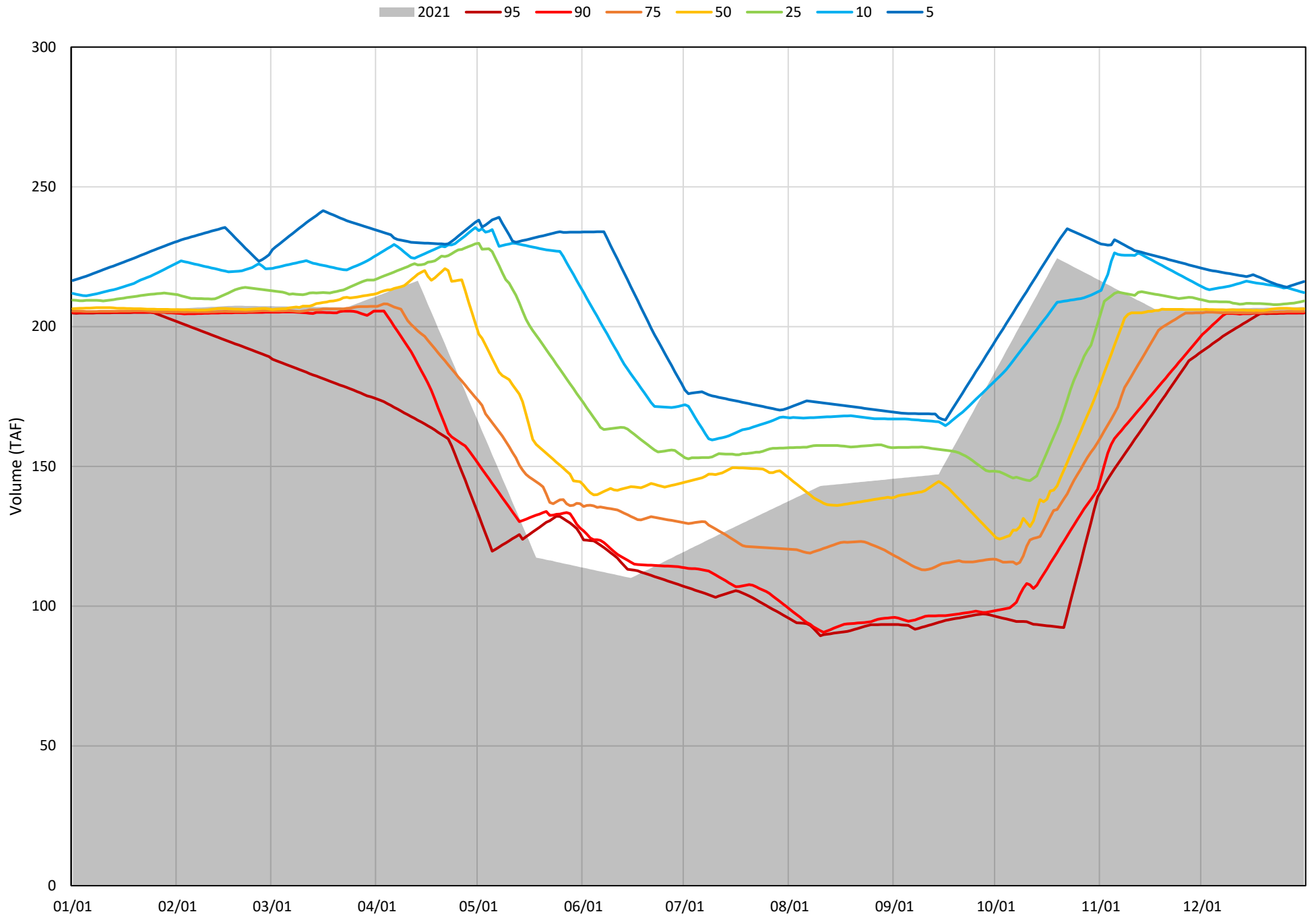


# Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021

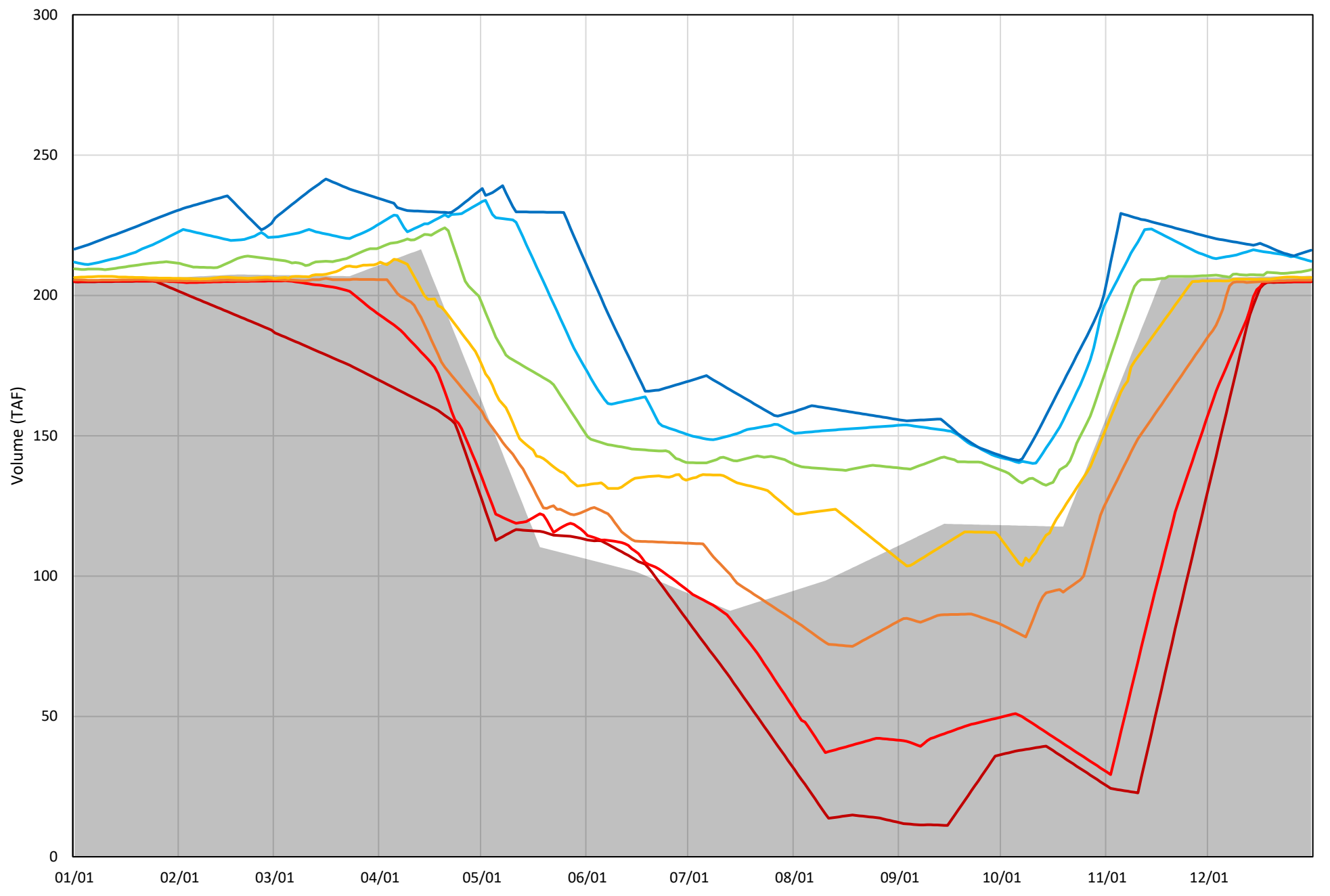


Whiskeytown Lake Cold Water Pool Volume  $\leq 60^{\circ}\text{F}$  - Percent Exceedances (2000-2020)



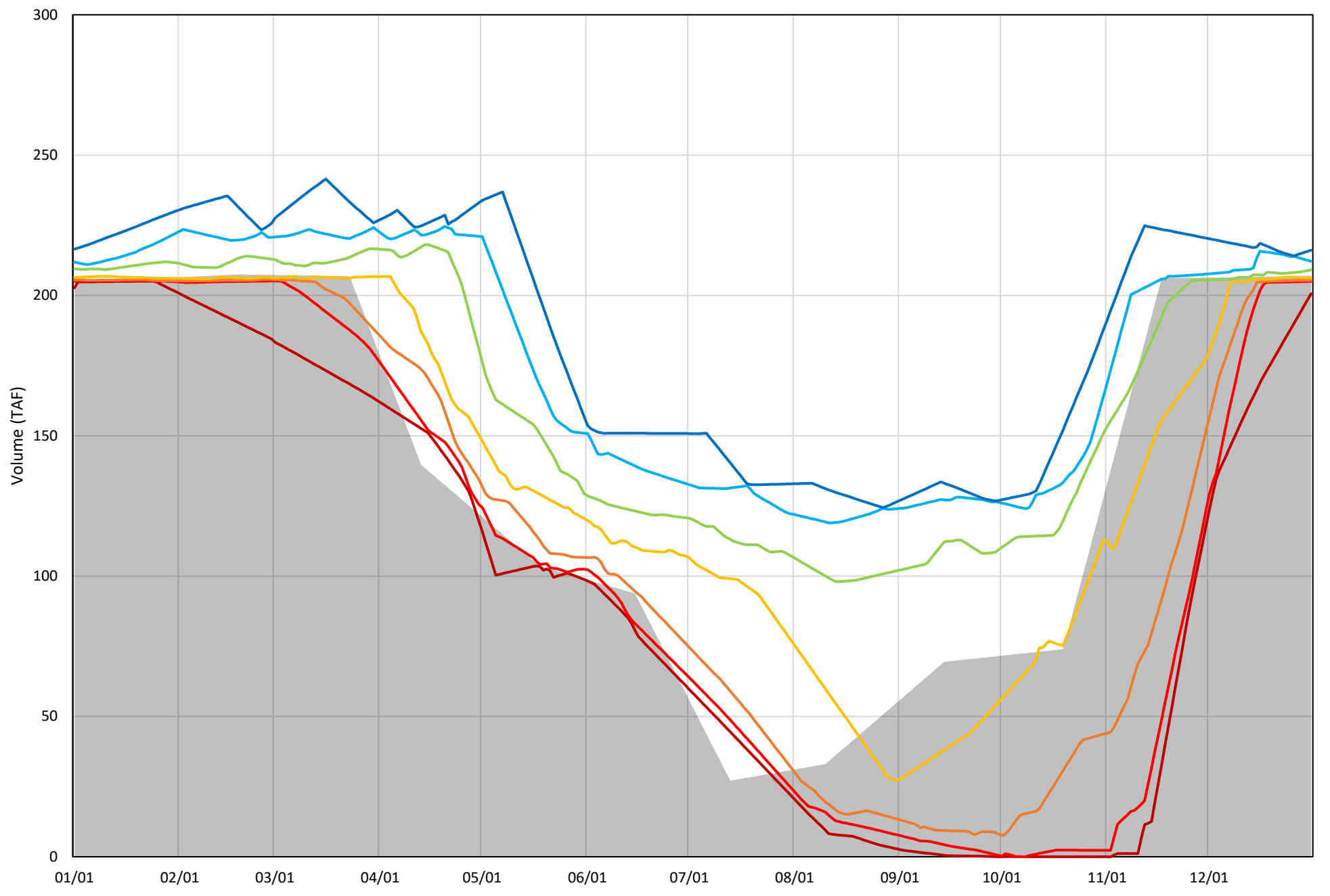
Whiskeytown Lake Cold Water Pool Volume  $\leq 58^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



Whiskeytown Lake Cold Water Pool Volume  $\leq 56^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



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

Dec-31 2021	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	3	3	3	3	2	2	2	2
2001	6	6	6	6	3	3	3	3
2002	1	1	1	1	1	1	1	1
2003	1	1	1	1	0	0	0	0
2004	8	8	8	8	4	4	4	4
2005	1	1	1	1	0	0	0	0
2006	0	0	0	0	0	0	0	0
2007	0	0	-7	3	0	0	-4	1
2008	1	1	1	1	1	1	1	1
2009	0	0	0	0	0	0	0	0
2010	1	1	1	1	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	3	3	3	3	1	1	1	1
2013	0	0	0	0	0	0	0	0
2014	2	2	2	2	1	1	1	1
2015	4	4	4	4	2	2	2	2
2016	11	11	11	11	5	5	5	5
2017	0	0	0	0	0	0	0	0
2018	3	3	3	3	1	1	1	1
2019	6	6	6	6	3	3	3	3
2020	0	0	0	0	0	0	0	0

Historic - Current

(Historic - Current) / Current